AGRI-FOOD

A LOOK AHEAD

87-01277/

FOREWORD

The publication of the proceedings from the Agri-Food: A Look Ahead Conference is intended to communicate to a wide segment of the agri-food sector, the substance of discussion which took place November 4-5, 1986. It summarizes the comments of guest speakers and their responses to questions from the audience. It also summarizes the background paper, "Agri-Food Outlook and Policy Review", prepared by the Economics and Policy Coordination Branch of the Ontario Ministry of Agriculture and Food for distribution at the conference.

The theme of the conference was "The Shape of the Agriculture and Food Industry in the Year 2000: Implications and Opportunities", featuring prominent speakers who focused on specific issues, trends, opportunities and problems, as seen from their individual perspectives in their respective fields.

The conference was attended by a wide range of agriculturally oriented groups — producers, farm associations, marketing boards, food processors, wholesalers, retailers, and trade associations, as well as legislators, bankers, investment dealers, academics, critics, lobbyists and the media.

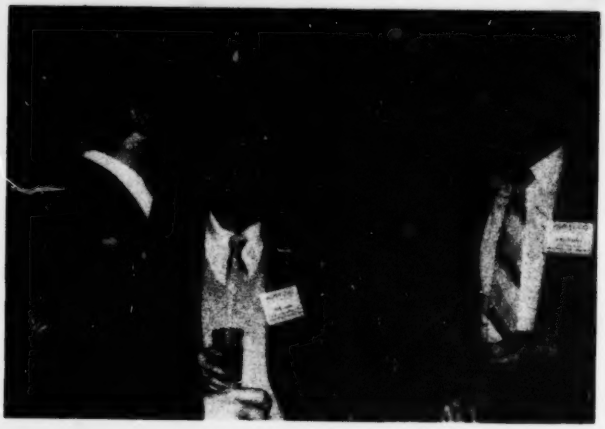
The problems, policies and strategies raised by the speakers alerted participants to the changing circumstances affecting their products, provided alternatives for addressing those challenges, and encouraged awareness and understanding of the viewpoints and positions of various segments of the agri-food sector. The wide range of delegates increased the scope of the discussions and provided agri-food decision makers with additional insights into the rapidly changing environment in which the industry operates.

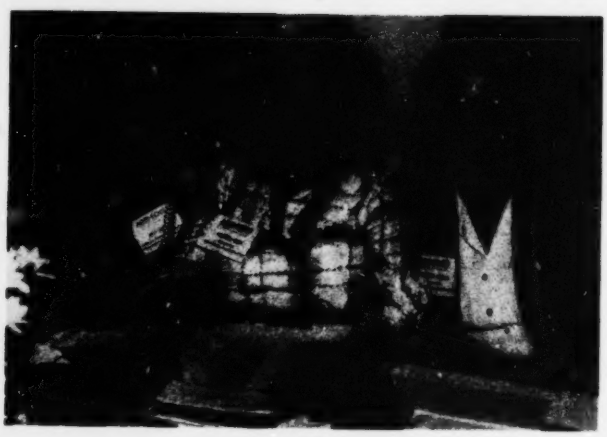
The response of delegates indicated that the conference achieved its purpose: to provide a forum for the interaction of the widely diverse groups that make up the agri-food sector, in order to increase awareness of different perspectives on issues facing the various segments of this important sector of the Ontario economy.

Future conferences will have different themes, but each will continue this process of communication among the various segments of the agri-food community.

Additional copies of this publication, or of the complete text of the background paper prepared for this conference, can be obtained by writing to:

Economics and Policy Coordination Branch
Ontario Ministry of Agriculture and Food
801 Bay Street, 4th Floor
Toronto, Ontario M7A 2B2





Contents

Welcome and Introduction **3**

Global Economy: General Outlook to the Year 2000 **5**

Panel Discussion
Pressures in the Agri-Food Industry to the Year 2000:
- Overview **9**
- Consumer Expectations **12**
- Resource Protection **14**
- Changing Values **16**
- Comments, Questions and Answers **18**

Changing Structure and Public Perception of the Agri-Food Industry **19**

Competitive Advantages: Creating and Sustaining Superior Performance **21**

New Technology, New Clientele: Adaption and Education **26**

Implications, Opportunities and Ministry Response **29**

Responding to Change: Management Challenge for the Next Decade **31**

Agri-Food Outlook and Policy Review **36**

Ministry of Agriculture and Food
ONTARIO
Jack Riddell, Minister
Clay Switzer, Deputy

WELCOME AND INTRODUCTION

JACK RIDDELL
Minister
Ontario Ministry of Agriculture and Food

First, let me say I appreciate your attendance at this very important event which takes place every year. We certainly look forward to a meeting of the minds in order to help us plot the course for agriculture over the next few years.

In looking ahead, there are many different factors that could influence the future. The road to tomorrow is not straight ahead, two lane blacktop. Instead, it more closely resembles the worst back roads you have ever travelled, laid out more by habit than design, with ruts and holes, hidden entrances and blind curves. In recent times in particular, the road seems to have had more and more blind curves.

Looking back, there is no doubt that, since last year's conference, our farming sector has seen some of the roughest times in the last fifty years. The world scene has been characterized by a fair amount of unfair trading. It seems that the rules of good sense and good business have been put on hold, as food producing countries around the world try to out-subsidize each other. It is becoming a buyers' market. That is fine if you are a country that imports food, but this country and this province also sell. We are having to sell in an atmosphere of tighter, and in many cases artificial, competition. Canada and Ontario find themselves in a squeeze, and we have to come up with creative solutions.

I am a great believer in the old adage that the only time you can be beaten is when you give up. Ontario's agri-food industry is not beaten and it is not giving up. There may be profound changes ahead and some big challenges. We intend to rise to the occasion and meet them head-on.

Legislation in this province lets farmers take more control of marketing their own products. Supply management has made a major contribution to stabilizing production and producer income in Ontario. It is still one of the pillars of our agricultural policy. This system is just one example of government creating a framework for industry to better itself.

Take the Ontario Corn Producers' Association (OCPA), for example. The OCPA felt that it was being hurt because U.S. corn was subsidized, and decided to help themselves by exercising their rights under Canadian trade law. The Government of Canada agreed with their case and will consider countervail duties on American corn exports coming here. The U.S. Farm Bill may constitute a subsidy that puts Ontario corn producers at an unfair disadvantage in their own country.

My government hopes that reason will prevail at the multilateral trade talks. We were pleased to see that agricultural subsidies will be part of the agenda for these meetings on the general agreement on tariffs and trade (GATT).

But we are not pinning all our hopes on the GATT talks. We have taken a number of new initiatives designed to help stabilize the industry for the future. These include the tripartite stabilization plan for red meats, our proposals for foodland preservation, the deliberations of the Right To Farm Committee, and our review of the crop insurance program.

In recognition of the unprecedented financial situation, we have responded with direct financial assistance to farm families. The Ontario Family Farm Interest Rate Reduction (OFFIRR) program has invested $45 million in helping farm families cope with low prices and high interest rates. I extended OFFIRR and expanded it to make more families eligible for assistance. This will mean another $150 million in this program over the next three years.

Other programs include the $54 million Ontario Pork Industry Improvement Program, the $6 million Fruit and Vegetable Quality Improvement Program, our new $6 million program to improve and upgrade small food processors, and the $3.7 million to help develop commercial aquaculture. These are new initiatives with an eye on the future.

As a government, we have to be forward looking. Most of our actions today are designed to pay off in the future. Our experience in Ontario has shown agricultural research to be a positive force in the development of this industry. Ontario was a pioneer in the field of agriculture research over a one hundred years ago, and we have never relinquished our lead. Today our annual budget for this type of research is about $33 million, the highest of any Canadian province.

We have devised some new programs, such as the crop introduction and expansion program. This is designed to bring the business and research communities closer together. We want to speed up the time it takes to get new discoveries out of the lab and into commercial production.

For the future, the Government of Ontario intends to put even more emphasis on research and development in agri-food products. I am pleased to announce the creation of a special agriculture and food research fund. This will see $2 million a year for the next five years invested in innovative projects, new research directions, and new areas of scientific investigation. This program will be coordinated through the Agricultural Research Institute of Ontario to avoid duplication of existing research efforts.

This special pool of research money will go to new and non-traditional approaches in areas such as biotechnology, environmental engineering, processing and packaging. This is "high risk" research. But if you want to break new ground, you have to explore unchartered areas. The risks are greater but the rewards could be too.

Under this new research program, we would encourage more market oriented projects and attract outside capital into joint ventures. We will be able to strengthen the future competitiveness of Ontario's agriculture and food industry, without affecting existing or ongoing research projects. This program will be fully operational early in the new year, after we have worked out the details with the Agricultural Research Institute of Ontario.

Judging by past performances, this is one of the best investments we can make. Studies have found that, on the average in Ontario, every dollar we put into agricultural research returns forty. Agricultural research is one of our major building blocks for the future.

Our education programs make a positive contribution to the industry of tomorrow. We are continually evaluating and improving all the elements of agricultural education. We want to build more flexibility into the system. We are trying to make it more responsive to the needs of our clients and the industry as a whole. The Education Task Force is evaluating alternatives to our formal training programs, such as co-op programs and certificate courses of various lengths, anywhere from one week to one year. This group is also looking at a three year honours diploma, to provide a more specialized education tailored to the needs of the industry.

We are evaluating the changing needs for special education programs. We have already run a pesticides training program in conjunction with the Ontario Ministry of the Environment and the Ontario Crop Protection Institute. We expect to expand this program quite significantly.

We are looking at joint ventures with agencies such as Canada Manpower, and at contract education for outside clients, on both a national and international basis. An example of this latter type of program would be the dairy management training of students from the Middle East at Kemptville College for Semex Canada.

We are also getting involved in computer conferencing and offering more courses on videotape as part of our program of independent study. We are working toward getting agriculture back into our schools, so the next generation in this province will have a greater awareness of the agri-food sector. We want them to appreciate its pivotal role in our economy.

Our concern for the future is also why Ontario is working with Ottawa and the other provinces on a national agricultural strategy for this country, something we have never had before. It is for the farmers and consumers of tomorrow that we work to protect our land base, both through foodland preservation, and our efforts to maintain the productivity of the soil.

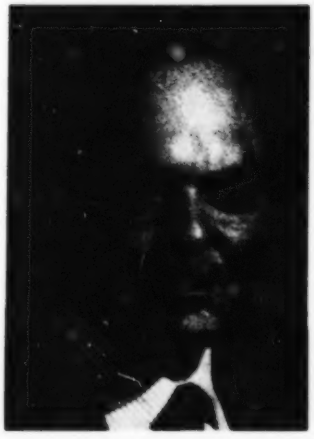
We show our strong support for the new generation of farmers through programs such as the Beginning Farmer Assistance Program, but what kind of economic climate will they have to work in? Even if the major world traders in agricultural commodities get together through the GATT talks, that still will not solve all the problems. You cannot escape the fact that countries which once were major markets for Ontario and Canadian food products, such as grain, are becoming exporters themselves. Even with a permanent ceasefire in the export subsidy wars, we still have to deal with a global trade environment that is far more competitive than it has ever been in the past.

We will also have to face growing social concerns, such as the issue of health and safety in foods, or the use of pesticides and fertilizers on crops. These are part of the predicted structural changes in agriculture.

This world of the future will demand the most up to date and professional business management techniques. These will have to become as common in the barn as in the boardroom.

We cannot overestimate the impact of new technology, and its consequences. But I can think of no other segment of our economy as eager to embrace the latest developments as is agriculture and food. This attitude is just one of the strengths of the Ontario agriculture and food industry. We have to look beyond the present and keep our eye on the long run. That is what the "Agri-Food: A Look Ahead" conference is all about.

I know this industry has what it takes to meet these challenges. We have the know-how. We have the products. We have the people to do the job. When you add the desire, you have a combination that is hard to beat. We are going out to meet the future with education, with research, with marketing, with development and support programs. But most of all, the talent and determination of the people involved is the strength of this industry and its greatest resource.



BIOGRAPHY

JACK RIDDELL

Jack Riddell was appointed Minister of Agriculture and Food by Premier David Peterson on June 26, 1985. He was first elected to the Ontario Legislature in March, 1973. As the former agricultural critic for the Liberal party for ten years, he has also served on various select committees of the legislature. He was also a member of the legislature's resources development committee.

A graduate of the Ontario Agricultural College at the University of Guelph, he owns and operates a 200 acre cash crop farm in Huron County. He was an assistant agricultural representative for OMAF and has taught agriculture at the secondary school level. He has been a livestock sales barn owner, operator and auctioneer. Mr. Riddell is a member of the Agricultural Institute of Canada.

Global Economy: General Outlook to the Year 2000

WENDY DOBSON
President
C.D. Howe Institute

We are in an increasingly turbulent and uncertain global environment. Between now and the year 2000, everything around us will be changing in unpredictable and often very dramatic ways, that both create winners but also create losers. Even if we could predict what the changes are going to be and how they are going to take place, it is often very difficult to respond intelligently, because of the loudly expressed concerns of those who think they will lose. Meetings of this kind provide an opportunity to stand back, try to identify fundamental trends that will shape the future, and reflect on their significance so that they can be translated into action.

Four trends are shaping the economic outlook between now and the year 2000. The first is the growing interdependence among the world's economies. The second, closely associated, is the change in trade patterns and the rise in protectionism, something that we hope will abate again, long before the year 2000 arrives. The third factor is the changing demographic patterns around the world, and the fourth is the increasingly rapid pace of technological change, particularly in microelectronics and in biotechnology.

All of these trends are contributing, and likely will continue to contribute, to a very uncertain world environment. The best response for government, firms and farms is to anticipate, as best you can, the changes that are in store and to be prepared to adapt to those changes, rather than to resist them and hope that they are going to go away.

Beginning with interdependence, no economy operates in isolation. What happens in both large and small economies affects the rest of us. There are several reasons for this. One is the very high and serious level of indebtedness, particularly among developing countries. What happens in indebted countries closely affects other countries whose institutions hold the liabilities. The U.S. itself is now the world's newest net debtor.

The second reason is that industrial patterns are changing around the world. Newly industrializing countries and other developing countries are trying to raise their living standards. They achieve lower cost production in standard technology manufacturing industries, and in the process, threaten established interests in manufacturing in the developed countries. The outcome, of course, is a protectionist response, not to allow those low cost imports to compete, instead of adjusting to what is in fact an inevitable and irreversible pattern. If we as human beings are committed to raising living standards everywhere, we have to do it through economic development. The problem is that, when we delay inevitable adjustment in developed countries, it happens at the worst possible time. We saw this in Canada when interest rates went up. We had a recession. Lots of people were thrown out of work. That is the worst possible time for adjustments to take place.

In addition, commodity prices are a factor in the picture. A number of developing countries are forced to dump natural resources and commodities on world markets, or to subsidize them, in order to earn foreign exchange to pay their debts. What happens is a fall in world prices at a time when industrial demand is depressed because of slow recovery in many countries around the world.

The third factor has to do with the economic imbalances that are created by indebtedness and by the fact that the flow of capital really knows no boundaries because of the microelectronic evolution. Twenty-four hour capital markets are becoming a reality faster than anybody ever anticipated.

In the middle of that, we have had a reasonably fast growing U.S. economy, being stimulated by a set of government policies that is not sustainable, because it is running up that large U.S. budget deficit. The deficit and the fast growth in the U.S. economy has attracted capital and necessitated borrowing abroad because U.S. savings are much less than the borrowing requirements of both the public and the private sectors. High U.S. interest rates have attracted the world's savings, creating a strong U.S. dollar, which has been creating trade problems for American producers and creating a bonanza for foreigners exporting to the U.S.

The strong U.S. dollar has been pushed down by coordinated monetary policy, but the engineering that was involved in pushing that dollar down will have only a temporary effect unless the U.S. gets its deficit under control. There are no signs yet that that is going to happen.

The recent election makes budget control even more problematic because there are many questions about how successful the President is going to be with his policies in future. He has not been very successful with his budget reduction policies.

The Japanese, the world's largest creditor nation, look around the world for a good place to put their money. At present, the U.S. is by far the most attractive place to invest. And so, until growth picks up in Europe and other parts of the world, the U.S. is going to continue to have this problem of a resurgent dollar because of capital flows.

This growing interdependence among economies around the world affects the macroeconomic outlook. Three factors that are affected are: growth; inflation; and locus of growth dynamism. In the short term, growth is picking up in Germany and Japan. Policy changes being made in Japan will stimulate domestic growth in the face of the very strong yen and the exporting problems that the Japanese are running into. These are signs that there will be offsetting growth in the rest of the world, but not as fast as the U.S. economy slows down.

Lower oil prices and lower interest rates are building a growth momentum outside the U.S. that is promising. No

one yet can predict how quickly this momentum will build up.

In the meantime, there is a substantial risk that foreign lenders could lose confidence in the ability of the U.S. administration to conduct intelligent economic policy. Lending in the U.S. could dry up, which could cause an unexpected increase in interest rates, creating slower growth, and a rather disrupted situation for the rest of us.

Prospects for low inflation look rather good, partly because of slow growth and slack capacity, but very much because of what is happening to oil prices. The prospects for OPEC getting back together in a way that could engineer an increase in oil prices seem very small, especially in light of the falloff in demand and the increase in new supplies. The prospect for any rapid increase in oil prices, leaving aside war and other kinds of political disruptions in the Middle East, is not very strong.

The third factor is the shifting locus of dynamism. Japan is now the world's largest creditor nation and the U.S. is the world's newest debtor. Japan saves far more than it can invest at home. Increasingly the Japanese are looking for investment opportunities abroad. With the strong yen we can expect investment and the location of new Japanese production facilities to be abroad. This may take pressure off the trade problem and minimize the protectionist response.

What we will see is an increase in capital flowing back toward Japan. At some point in the future, Japan will earn more because it is a creditor nation, building up investments and assets abroad. Japan is going to become a mature creditor, which means it will repatriate dividends and interest payments and so on, keeping up the value of the yen. By the end of the century, or shortly thereafter, Japan will probably go into a trade deficit situation that would automatically go along with the very large capital flows that will be going back to Japan.

This brings me to my second concern. The second factor, closely related to interdependence, is protectionism and the need for trade policy changes. The shifting dynamism, the economic dynamism that we are seeing in the developing countries, the shift in Japan's position in the world as a result of the strong yen, the rise of the newly industrializing countries, will likely elicit a protectionist response by those countries that are threatened, particularly in Europe and the U.S. We in Canada are not guiltless.

There is a very real danger that as this protectionist tide builds up, world trade volumes will shrink, as major countries restrict access to their markets for traditional goods. Restrictions will also apply to agricultural exports that developing countries desperately need to sell.

Agriculture is at the centre of the protectionist battle, with the U.S. frustrated by years of the E.C. dumping agricultural products on world markets at subsidized prices. U.S. retaliation has included large increases in agricultural subsidies. The trade war has escalated with the U.S. offering to sell 4 million tons of wheat to the U.S.S.R. with subsidies. These subsidies, along with the reductions in U.S. domestic price supports, have lowered world wheat prices by 25 percent and cost Canadian grain farmers an estimated $1 billion in 1986 alone.

It does not stop there. The softwood lumber countervail, which was announced on October 16, is seriously affecting the entire lumber industry and therefore a significant part of the B.C. economy. All of you are familiar with a whole range of small actions that have been taken by the Americans over the last couple of years. The rising number of actions illustrate some of the immediate reasons why such high priority has to be attached to trade policy by a small country such as Canada.

Trade initiatives will shape Canada's options over the rest of the century. Two initiatives are underway: bilateral discussions with the U.S.; and multilateral discussions at GATT.

The C.D. Howe Institute has been worried for a number of years about this rising protectionism, which is an automatic prediction that you make, as an economist, when you look at how the U.S. has been conducting its fiscal policy. When you get a budget deficit that is as large and persistent in the U.S., and a strong dollar, it is automatic that you would expect a protectionist trade response to follow.

Canada is caught in the battle between the E.C. and the U.S. As we have seen, U.S. producers have made sure that they take a good look at Canadian practices as well. The U.S. market takes 78 percent of our exports right now. If this market is cut off, or if access is severely restricted for our manufactured goods and our natural resources, entire regions of the country are going to be in trouble.

To understand the trouble, understand that our past experience since the second World War has been one where protectionism has been declining in the world because of the GATT negotiated tariff reductions. In that time, our exports of manufactured end-products have increased from 8 percent of our total exports in 1960, to as much as 42 percent by 1984. Most of the rest was natural resource exports.

In Europe, as protectionism declined, industries became more specialized in particular products, and intra-industry trade among the various countries in Europe increased. Everybody was better off because of the increased trade. These are some of the advantages of trade liberalization that both Canada and the Economic Community have experienced by bringing down trade barriers. These advantages would be denied to us by the shutting off of the U.S. market. These advantages will be denied to us, even if we go on the way we are, because going on the way we are involves the inevitable shutting off of access to the U.S. market.

Contrast that with our long term goal. In all our major industries in Canada, we aim to be world competitive. If we are going to be world competitive, we need access to markets. We cannot rely on a 25 million person market and make it. The obvious target should be the U.S. market, not as an end in itself, but as a means of making ourselves world competitive in our major industries and therefore taking on markets around the Pacific Rim, in Brazil, in countries like India, that are going to be growing faster than the U.S. by the end of the century. That is why these trade initiatives, and particularly the bilateral trade initiative, is so important to our prospects and to the trends that will affect Canada over the rest of the century.

We have heard a lot of worries expressed in Canada about unemployment during a transitional period and threats that non-trade related issues like our culture and our social programs would be involved. I think these worries, while very real, are overdone. They are not directly trade related

issues and therefore should be non-negotiable. Contrast that with the prospect of more assured access to the U.S. market and I think the game is worth the candle. There are few other alternatives. The status quo is just not sustainable. The key question to ask yourself is what would happen if we go on the way we are.

Whether or not agricultural markets are going to be involved in bilateral negotiations is quite uncertain. We have tried at the Institute to make an assessment of what a comprehensive agreement, including agriculture, would mean in very broad terms for the various sectors. There would indeed be pressures to rationalize our dairy and poultry production and to some extent, fruit and vegetables. Some gains are likely in areas like beef, hogs and small fruit.

We think it would be rather unfortunate if we overlook the possibility that in livestock and food processing, input costs might decline with better access to the U.S. market. Greater access to the U.S. market would open up opportunities for economies of scale and increased specialization.

Let us remember that the biggest problems that we face in agricultural trade come from third countries, not the U.S.

It might be good strategy to focus bilateral negotiation on sectors other than agriculture, while moving agriculture up on the GATT agenda, where the problems of access to markets outside North America could be tackled. At the GATT meeting in Uruguay in September, Canada, along with some of the other small countries that are being hurt in the current warlike environment, sought to get agriculture pushed to the top of the agenda. Unfortunately, the Europeans would not agree to a special look at the subsidy issue early in the GATT talks. They did not disagree to discuss the subsidy issue, so agriculture will be on the GATT agenda.

In summary, the point is that both sets of trade negotiations are absolutely key to our economic future. Secure access to a 260 million person North American market would place us in a better position to take advantage of expanding markets in the rest of the world. Adjustment to growing interdependence and globalization of markets and technical change are better made in an expanding world market than in a shrinking one. You need only to look at the situation in Europe where very painful adjustments to external competition are being made in an atmosphere that up until now has been one of slow growth.

The third concern is demographic structures around the world. We see slowing growth in the advanced countries and continued rapid, though slightly decelerating, rates of growth in developing countries. This trend has to be associated with the fourth trend, the rapid rate of technological change. Central to the issue, certainly for the agricultural sector, is what I call the "Malthusian Dilemma". Thomas Malthus, an economist back in the eighteenth century, predicted that population growth would always outstrip the growth in food supply. As a result, we would have crises from time to time of famine and starvation.

Right now we have the Malthusian crisis on its head because of past successes with technological change. The large populations in Asia, that used to be our customers, are now feeding themselves because of the green revolution. It means that we are into a world in which excess supply is a major issue. The problem is not restricted to wheat, nor to the short run. It seems that it will be with us into the next decade because of the structural changes in demand for agricultural products. Most of you are aware that traditional markets for Canadian agricultural products are offshore. Consuming countries like China, India and Indonesia will not only be able to feed themselves but be able to store surpluses and create buffer stocks for the hard times. For the time being, Malthus is being proven wrong.

The situation will probably reverse itself: it always has. It is possible to foresee complacency on the supply side and slower reduction in the population growth rate than projected, getting us back into a world situation where we have demand outstripping supply. It will not be any time in the next decade, according to the experts.

Economically, we are a small country in a very large and turbulent world. We have to reduce our vulnerability to external shocks, like rapid and unexpected oil price changes or interest rate increases. We have to increase the flexibility with which our economy functions. That is the key in adjusting to unexpected external shocks.

We have to reduce our budget deficit. This is a major policy dilemma at the present time. We did not get our deficit down far enough, fast enough to allow the room to provide for unexpected but very much needed stabilization and subsidy programs to offset what has happened in agriculture. We have, at the federal level, a very serious fiscal deficit problem that has to be addressed. We are trying to reform our tax system in order to create more flexibility in the economy and to encourage risk taking and innovation.

In agriculture, the wheat price war is the tip of an iceberg. We are into a world of excess supply for the foreseeable future. However, the policy response internationally is to create a world of managed trade. In a world of managed trade, the big guys get together and divide up the markets with agreements among producers.

The little guys are left out. Canada, in this case, is one of the little guys. As we saw in Uruguay at the GATT talks, the little guys had a lot of concerns and had a lot of trouble getting those concerns addressed in the international forum. Managed trade, where we have seen it practiced, as in textiles and apparel with the Multi-fibre agreement, does not reduce excess capacity, but creates a highly politicized environment and a forum for those with the loud voices. The problem of access to each other's markets, access by others to ours and access by us to others', is absolutely key to dealing with the trends and opportunities in agriculture.

Adjusting to change is inevitable and irreversible. The adjustments require hard decisions about rationalizing our supply capacity, and exciting opportunities on the research and development side. An example of an opportunity would be to exploit some of the technologies that are being developed in biotechnology, so that we can develop new products that the rest of the world will want to buy. It makes a lot of sense to move up-market. We have the skills, we have the capital and we have the knowledge. We are in a world in which our traditional exports are being threatened by producers who may be capable of traditional modes of production, but may not be capable of more sophisticated modes of production that are within our grasp.

Q. How can Canadian farmers hope to be competitive on world markets given the level of export subsidies by the U.S. and the E.C. and the high cost of inputs?

A. How about a week to answer that. It is a very good question and a very very difficult one to come to grips with in a prescriptive sense. The reality is that managed trade is resorted to as the only feasible political solution. I was pointing out some of the drawbacks for the little guys. It is not just Canada that accepts world prices. The Australian economy has fallen out of bed. They have to accept world prices in agriculture and all their other natural resources. I acknowledge that it is extremely difficult for the producer because you are pushed very hard on the cost side. Barring progress in the multilateral forum, the pragmatic political response is to get involved in further intervention and to do as good for your guys as they are doing for theirs.

Q. Is it possible that the GATT negotiation may extend for as long as ten years? Or is there some hope that we could resolve this trade issue before that?

A. The GATT negotiations, the way they are structured now, are to be completed in four years. That is the officially stated intent. I have not met anybody who is optimistic that they are going to be wound up within four years, unless a mechanism is developed to give special attention to agriculture and get the Europeans to move more quickly. The Europeans readily admit they have to address the rationalization of the farm sector in Europe and reform their subsidies so that they would perhaps subsidize income rather than output. But they are determined to do it on their own terms rather than on GATT's terms and time frame. It is a very knotty political problem.

Q. How do we determine what is a competitive industry and what constitutes a level playing field with the U.S.? Canadians are different in many respects, in factors such as climate, and in other aspects, such as our social and labour outlook. We are not on the same playing field as a producer in California, Washington, or a majority of the the southern Sunbelt states. How can we determine if we have a competitive industry, in horticulture, red meats or grain, when we are on a totally different playing field?

A. The simple answer is that the market decides whether you are competitive or not. I very much understand what you are saying about the realities in Canada being different from the U.S. market realities. There is no simple answer to that. Recognize that if agriculture were part of the bilateral discussions, and it is not at all clear that it will be, there would be industries and producers on both sides of the border who would face different competitive environments then they do now. They would have to adjust. The adjustments would involve some becoming bigger and more successful, and some disappearing. For the long term economic health of this country, trade talks are a reality that we have to face.

BIOGRAPHY

WENDY DOBSON

Dr. Dobson is the President of the C.D. Howe Institute. The Institute is an independent, non-partisan economic policy research institution which monitors Canada's fiscal, trade, and monetary policies and contributes critiques and policy advice on other national economic issues.

She received her education at the University of British Columbia, Harvard and Princeton Universities. Her professional experience has included positions with Canada's International Development Research Centre, the United Nations Development Program, and the federal government.

Dr. Dobson has written many articles and monographs on Canada's trade policies, energy policy, inflation and unemployment. She comments on current economic policy issues and provides an independent perspective to governments.

Pressures in the Agri-Food Industry in the Year 2000: "Overview"

SYLVAN WITTWER
Director Emeritus
Michigan Agricultural Experimental Station

The planet earth is really a wonder to behold. There is a combination of temperature, sunlight, atmosphere and water that makes this globe rather unique. Any major deviation from the life-supporting systems of our globe would have a dramatic impact on our ability to survive and to produce food.

Wheat is a major world agricultural commodity and Canada's largest export item. World grain production, from 1960 to the present, has been increasing. Many nations are now competing in the wheat market. The latest data from China show that it now has exceeded the productivity of the U.S. in terms of wheat, coarse grains and milled rice, and is the number one nation as far as volume of grain is concerned.

Many of the trends in agriculture are rapidly changing. These deviations can be related to climate, as well as government programs. In 1983 the Payment in Kind (PIK) program, coupled with a major drought and heat wave, resulted in a drop of 20-30 percent in the total production of grains.

Deficits have occurred in U.S. farm trade for the first time in the history since records were kept. Production of corn, wheat and soybeans during the past decade have gone up, but prices have fallen. We have gone the full cycle during the past decade from low production and shortages to overproduction and surpluses.

Many forces are changing American and world agriculture. Some of them are government programs, technology and mechanization, genetic engineering, the communication revolution, the rise and competition of exports, and the focus in research and education on bigness.

An example of government programs is crop price supports. In the U.S., the deficiency payments were: $18.9 billion in 1983; $7.3 billion in 1984; $17.7 billion in 1985; and in 1986, an all time record of $25.5 billion (estimate).

The world has learned how to produce food. Most agricultural commodities are in surplus today. Even little things like almonds and raisins in California are in enormous surplus. We need to remember that in terms of agricultural policy in the years ahead.

Other forces are also changing American agriculture such as the cost of inputs, changing regulations and part-time farming. Two thirds of the people in the U.S. on farms are part-time farmers. Also, the availability of credit, and expectations during the 1970's, have completely reversed. Farming has changed from a way of life to a business.

Megatrends affecting agriculture include increased spending power, physical fitness and health foods. We have become a grazing society, eating on the run, in Ontario, Canada, the U.S., Western Europe and even China.

Dietary changes will impact on agriculture as we look towards the year 2000. The very significant ones are: less fat, sugar and calories; more starch and fibre foods; avoidance of sugar, salt and caffeine; avoidance of cholesterol and preservatives; increased vitamins A and C for preventing cancer; and new health food items.

Some of the demographic changes include: an aging population; smaller households; the changing role of women; and more single person households. Almost 50 percent of households in the U.S. at the present time are single person households.

Twenty crops stand between people and starvation. These crops are in surplus and we could list them one after the other. Number one is rice, number two is wheat, number three is maize. They are all in surplus on a global scale. We can add other cereal grains which account for 50 percent of the protein and 60 percent of the calories people consume on the earth: grain sorghum; pearl millet; oats and barley. These form the most important food group. They are all in surplus.

Another group, the legumes, include soybeans, field beans, chick peas, pigeon peas, mung beans or cow peas and peanuts. These form the second most important food group. They are all in surplus.

Root crops include potatoes, sweet potatoes and cassava, which we know in the granulated form as tapioca. These are in surplus. Sugar beets and sugarcane are also in surplus.

What is the role of animals in the food system? They convert indigestible forages, and make them available for human food. They are a global food reserve equal to the grain reserve. They are an excellent source of vitamin B12 and they provide a lot of protein, energy, phosphorus and calcium. They are also a buffer for grain prices and supply.

There are some very interesting changes with respect to dietary patterns on a global scale. In every nation where records have been kept, there is increased consumption of meat on a per capita basis over what there was a decade or two ago. There is a global trend in a desire for people to have more animal products. Per capita consumption follows this pattern: beef consumption is down; chicken consumption is up; and pork is about stabilized. It is projected that the poultry industry will overtake the beef cattle industry within the next decade.

At an international conference on animal agriculture in 1980, some of the priorities were: improve reproductive efficiency; resource conservation; more lean and less fat meat; biological engineering for disease resistance; and improved productivity in environmental adaptation.

Agriculture in 2000 will show increased efficiency, profitability, and greater stability of production. It will be more competitive internationally and provide better nutrition and improved food safety for the consumer.

The determinants of future agricultural productivity will be new technologies, economic incentives, resource

inputs including climate, land, water, energy, fertilizers, pesticides, biotechnology, automation, and the human resource.

Climate is the most important factor in agricultural productivity. Snow cover has a lot to do with the productivity of the corn belt, because the soil moisture in the spring of the year accounts for how productive the U.S. and much of Canada will be during the coming year.

We are also mindful of drought. Drought is registered someplace on earth every year on a major scale. Drought is devastating. But you can also have too much water as we have experienced this year in Michigan and many parts of Ontario.

Another concern is acid rain, which has been dealt with by both our nations. Much of it spews from Michigan over into Canada. No one knows the impacts of acid rain on agricultural productivity. We think we know something about forestry and lakes, but the effects on agricultural productivity are so subtle, we may not know the answer for several decades into the future.

Land is a resource. It is where our food is produced and where people live. Nearly all the food that we have comes from the land. Land has many uses. It can be used for grazing livestock, forestry, renewable resources and recreational purposes. These are competitive uses which are going to cause increasing stresses and strains during the decade ahead. Irreversible land use is occurring in Ontario and all over the world. Urbanization is a process where land is irreversibly taken out of production.

Soil erosion can be seen in South America, Mongolia or China. It can be seen right here in Ontario or the corn belt. Erosion is a global, universal problem, but there are practices that have been developed to do something about it such as contour planting and strip cropping. Another practise is conservation tillage, where the crop is planted directly in the residue of the previous crop without plowing the land. Almost a third of all the land in the U.S. now is under conservation tillage.

Two problems arise with conservation tillage: drilling through the residue; and weed control. Some of the biggest proponents of conservation tillage are those who sell herbicides, because herbicides thus far have been essential in terms of conservation tillage. But there are alternatives.

There are varieties of cucumbers that will suppress the growth of pigweed. Suppression of growth of another plant is called an allelopathic response. Some crop residues, with allelopathic properties, could be used for weed control. This response is nature's herbicide, an alternative to synthetic herbicides. This is a wave of the future as far as technology is concerned. That is a challenge in research as we project our needs for the twenty-first century.

Water is a critical resource. It is a resource that the U.S. jointly shares with Ontario and, of course, Canada. We in Michigan are vitally concerned about water because the major consumer of water is agriculture. Of the water consumed in the U.S., 80-85 percent is through irrigation of crops. Water is a critical agricultural resource and we are concerned about all aspects of it.

In the Soviet Union, the major rivers all flow north. The Soviets are developing schemes to divert those waters southward because agriculture is in the south, not in the Arctic where they have the fresh water. In India, which is now a major grain exporter, hundreds of thousands of tube wells have been installed. This means that failure of the Monsoon will not have the impact it had two decades ago. In Egypt and in the Sudan, the Nile River is critical for irrigation. Over 50 percent of all the irrigated land in Africa is found in those two nations.

Very primitive irrigation systems still prevail in Egypt. Human power often raises the water from lower to higher levels. The canals in the western part of the U.S. or in Pakistan or India are used to transport water through the desert where a great deal of surface evaporation occurs. In China, water is taken from the mountains out into the Gobi Desert through underground aquifers. These irrigation systems were built hundreds of years ago. My point is that we can look at traditional agriculture as well as modern technologies to determine some of the inputs that we ought to be concerned about in agriculture today.

In San Diego County, California, high technology is used to produce strawberries with plastic mulch and sterilized, fumigated soil. Each row is equipped with an irrigation line that puts the water where the plants are, so you irrigate the crop instead of the soil. Water is in short supply in San Diego County. This is one means of increasing the efficiency in the use of water. About 25,000 acres of orchards in Michigan are equipped with drip irrigation to conserve water.

Energy is a resource. Agriculture is the only major industry in all the world that processes solar energy. In agriculture, crops and planting systems may be designed to capture as much energy as possible from the sun. Plants can be redesigned to change their architecture. In the case of rice, which is the number one crop in the world, the horizontal flag leaves were shaded by the panicles of grain. The position of the flag leaves has been changed and put above the panicles of grain so there is a better light receiving system. They can receive light directly. Productivity was increased simply by changing the architectural design of the rice plant.

The most important industrial input in all of agriculture is nitrogen fertilizer. It accounts for about 40 percent of all the increased agricultural productivity in the last fifty years. Only a third of what we put on the land will actually be recovered by the crop. Legumes, the second most important food group, can fix atmospheric nitrogen and make it available so that plants can fertilize themselves.

The other amazing fact is that we are putting a lot of nitrogen fertilizer, other fertilizer and pesticides into producing things we do not need. That is a waste of resources. In fact, about a third of the pesticides we use goes into production that we do not need.

We have come a long way in terms of human safety and human health, but pest control chemicals, the equipment, materials and labour are costly. Management of resistant biotypes is one alternative, which is a non-chemical approach to pest control. Other countries including China can teach us about biocontrols, living pesticides, cultural practices, physical control and plastic mulch repellents which in some cases work.

Pests are becoming increasingly resistant to chemical pesticides. The latest information shows that 430 biotypes

are resistant to insecticides, 150 resistant to fungicides and bactericides, thirty-six to herbicides and ten to nematicides.

A recent book, "Modern Meat" by Orville Shell, points out some of the problems with respect to the use of antibiotics, hormones and pharmaceuticals in beef cattle, dairy cattle, poultry, and turkeys. There may be a crisis within a decade in terms of the public's objection to the use of what is being done to magnify the rates of production of our livestock and poultry.

Computers have a role with respect to agriculture for the future. Computers will program agricultural inputs. They will help in management decisions on many of our major farm operations. A large poultry farm in Ionia, Michigan, is under complete computer control.

Genetic engineering is going to play a role in agriculture in the future. There is immediate potential for genetic engineering of crops. Some applications include tissue culture and the development of clonal propagation. In Africa, cassava is being propagated disease-free by tissue culture techniques and being sent to other African nations. The Chinese are far ahead of the rest of the world in genetically improving their crop.

We in the U.S. often have credited ourselves as being the most efficient in terms of production of any group on earth. Japan is not as effective in terms of output per farm worker but they are much more effective in output per unit of resource input. We are going to have to go this route in the future and hopefully maintain the efficiency with respect to farm workers. We must also develop technologies that are more resource-sparing than we have in the past. How will we put more science and technology into productivity and reduce the inputs at the same time? These are some of the ways that it will be done: plant breeding; irrigation of crops to conserve water; genetic engineering; growth regulators; new fertilizer technologies; improved crop protection; biological nitrogen fixation; and improved photosynthetic efficiency. More of them include multiple cropping, temperature acclimation, improved nutritional value of forages, earlier crop maturity, transpiration suppressants, rising levels of CO_2, intercropping and, of course, protected cultivation.

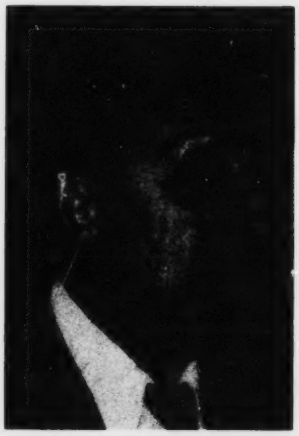
Some research imperatives for the future with respect to technology are genetic improvements, overcoming biological and environmental constraints, and production systems apart and separate from those that we are familiar with.

Another imperative for the future is the implementation of policy issues. We are going to have to concern ourselves more with public policies and institutions. Scientific capabilities, development of the human resource, and government, industry and university interactions are going to have to receive attention in the future.

We have food abundance and we do not know what to do with food abundance, but we also have abject poverty and starvation. A nation's agricultural production decisions will determine whether there will be hungry and starving people. It is a matter of getting food to people, or of the purchasing power of people. That is really the solution to expanding international markets. Someone is going to have to purchase the food. Today there are about the same percentage of starving people as there are people that are dieting.

The revitalization and the privatization of Chinese agriculture is a model at which we really ought to look. What is happening in China today will probably be recounted as the most significant agricultural revolution for the twentieth century. Cotton production has increased: 175 percent in five years; rapeseed 75 percent; wheat 40 percent; soybeans 30 percent; rice 24 percent; and maize 20 percent. China is a nation with a billion people with a 50 million annual increase. In the last four years, total agricultural output increased: 10 percent on an annual basis; crops 8 percent; livestock 9 percent; forestry 9 percent; fish 9 percent; and sidelines 19 percent.

This has been done through economic incentives and favourable government policy and also an increase in resource inputs. Value added is another important aspect. Packaging is one way of increasing value. Packaging has been mentioned and value added has been mentioned. Every nation is looking to that as an option.



BIOGRAPHY

SYLVAN H. WITTWER

Sylvan H. Wittwer, Ph.D., Director Emeritus, Agricultural Experiment Station, and Professor, Horticulture, Michigan State University, East Lansing, received his Ph.D. in 1943 at the University of Missouri. His interests include protected cultivation for crops, plant growth regulation, foliar absorption of nutrients, limits of biological productivity for crops and food animals and the role of science and technology for global food production.

He has published over 700 research papers and scientific reports. In January 1984 he was the recipient of the American Farm Bureau Federation Distinguished Service Award. He was the agricultural advisor in the Science and Technology Advisory Group for the Executive Yuan of the Republic of China (1981-1986).

Pressures in the Agri-Food Industry in the Year 2000: "Consumer Expectations"

BERNICE McLEAN
Chairman
Ontario Food Committee, Consumers' Association of Canada

Today the consumer is more knowledgeable, more demanding, is busier, has a smaller family, is often a single parent or does not have any children at all, and is older and is aging. The consumer runs the gamut from unemployed to yuppie and is now often male. If we look at the young people who are now in the fifteen to twenty year age group, we have further signs of tomorrow's consumers. Because both parents work, both help with the shopping and the household chores. They expect foods which are nutritious and safe. There are ethnic and immigrant communities and a rapidly growing number of unemployed. I am told by the retailing industry that things are changing so fast that they cannot track consumer behavior six months ahead, let alone to the year 2000.

Let us look first at our land base. If the world was an apple, three quarters would be ocean, and one quarter land. If we take this quarter of the land and cut it in half, one half would represent the antarctic, the dessert, the swamps, the high mountains, and the other half would represent the remaining surface of planet earth. Cut that part into four equal parts, setting aside three because they are too rocky, too wet, too hot, too cold, too steep, or already buried under cities, highways and human structures, and the remaining piece represents the land that is presently or potentially available for food production. It ranges from prime to marginal quality. It is one thirty-second of the world's surface and must feed all 5 billion of us. This precious piece of earth must be used wisely.

Everyone pays lip service to the ideas of preserving this prime land for agricultural production. However, the existing patterns of land ownership and the uncertainties in the current economic situation are causing still more land to be lost. Unless there is a sudden and dramatic breakthrough, a plan which we could all embrace, the situation seems unlikely to change.

Soil is the basis of agricultural production and yet soil degradation is jeopardizing the capacity of our agricultural community today to produce food. The cost of soil erosion in Ontario reaches many millions of dollars per year. There must be a long term plan and commitment so that farmers have incentives to practise good soil conservation and preservation. The announcement of the Soil and Water Environmental Enhancement Program (SWEEP) last spring was just a beginning.

We watch the forces which have led to monoculture and concentration of high yielding varieties of plants. As the seed base becomes more uniform, varieties disappear. The varieties that survive may not always be able to resist disease, insects, drought and moisture, resulting in a danger of reduction in our food supply. A good seed bank must be maintained, with excellent storage of genetic material, of crop plants important to Canada.

Acid rain, plant breeders' rights, reduction of garbage in land fill sites, are problems or situations which must be addressed so our grandchildren will have an adequate diet.

The consumer is concerned about food safety. Through the use of chemicals such as pesticides, fertilizers and additives, we have been able to increase food production and extend the life of many food products. The irony is that now we have stockpiles of wheat, corn, dairy products, and other commodities. Of even more concern are the possible health problems as the use of some of these chemicals proliferates. This is a very sensitive issue for the consumer.

I am in no way suggesting that all chemicals should be banned. The benefits far outweigh the risks. Food quality has improved so much that high quality is now expected by consumers. However, consumers are confused and apprehensive. They read stories of farm runoff going into our precious water supply. They hear about pesticide residues on produce, antibiotics, growth stimulants, improper disposal and even the danger to the farmers themselves. Perhaps we use too much of those useful chemicals.

There is a study going on right now in Toronto called Responsible Care. Consumers need reassurance that chemicals are used with discretion and prudence. The Consumers' Association of Canada (CAC) has, in the past, had strong faith in the integrity, diligence and effectiveness of our federal and provincial food inspection system.

It is difficult to see the benefits of food inspection programs. Prevention is very hard to measure. In times of restraint, when dollars are short, this seems to be one place where cuts can be made. We hope this will not happen.

The consumer wants quality. I compliment retail industry for bringing us produce all year round from all over the world. Foodland Ontario is the promotional campaign emphasizing the quality and flavour of our locally-grown food products. From what I can observe, Ontario consumers want to be loyal to Ontario producers. They perceive local foods to be fresh and flavourful because they do not have to be picked as far ahead, they can be rushed to the store, they do not have as far to travel, and so on. However, when it comes to quality, they want to put the best into their shopping baskets, no matter where it is grown.

Flavour is a very important part of serving your local consumer as well as your export market. Growers must choose varieties that have good flavour as well as the qualities that suit harvesting and processing. With our technology,

there must be a way to combine all of these factors. The day may be coming when consumers will shop for variety by name in other commodities besides apples.

Consider potatoes, for example. Different varieties have different qualities of taste, method of cooking and food value. We have been getting Idaho baking potatoes for years. Why not Ontario bakers?

An Ontario apple, peach, pear or plum is as easy to eat as a candy bar and far healthier. It can and should be a great alternative to junk food snacks. However, we are seeing more exotic fruits: the papaya, the mango, kiwi, and so on. The industry would be wise to track consumers' purchases of exotics compared to our own, and perhaps educate consumers to replace imports with locally grown products.

It is a known fact that good nutrition is one of the factors leading to good health and disease prevention. Consumers have been greatly swayed by scientific findings concerning nicotine, cholesterol, fat, sodium, calcium, and so on. For our producers to keep up with these facts requires the agility of a tightrope walker. It has been twenty years since we got our first information on the relationship between tobacco and cancer. Then fat and cholesterol became the culprits. Our beef and pork producers have done a good job in bringing us the leaner animals of good quality.

Nutrition information seems to be coming at us from all sides. It has become a great promotional tool. We are getting negative claims, and health claims for disease prevention. Nutritional labelling is imminent. Consumers are very much in need of reliable, understandable, and complete information, to help make the proper dietary choices.

A complete nutrition education program must go far beyond what can be provided on the label, or in an advertisement. CAC applauds the creation of the National Institute of Nutrition to develop nutrition education programs and evaluate our nutrition needs.

As for the future, I do not think anyone can predict it accurately. Nutrition will remain important. However, as money becomes scarce, there could well be other trends to watch. Every week our newspapers indicate a growing number of unemployed. People are losing jobs and having trouble finding new ones. This could very easily put women, and men, back in the home. With more time and less money, there could be a swing from processed foods, back to basic cooking.

We all know our population is aging, but how we decide to look after the elderly will affect the food marketing industry. There is a growing trend away from institutionalizing our elderly. If more and more remain in their own home, it will definitely influence packaging. We already know about smaller sized portions, but I am thinking of foods catering to specific dietary needs. Meals might be available for diabetics, as one example.

However, our knowledge of nutrition is still not good enough to know the exact dietary needs of each person. Packaging whole meals would be convenient but a bit risky.

Also looming on the horizon is the possibility that the consumption of fish and fish oil will reduce the rate of heart disease and high blood pressure. The facts are not in yet, but if this interaction is true, consumers could eat more fish, which would affect our poultry industry.

We see under-nutrition and malnutrition in many parts of the world, and indeed, our own cities. Serious and costly health problems are a result.

Our association has never asked for cheap food prices. We have long held that an adequate supply of nutritious food, with reasonable choice to the consumer at a fair price and a good return on investment to the producer, is what is best for all. We realize that there are risks with supply and have, in the past, endorsed contributory stabilization plans. It is seen as one of the fairest ways for the beneficiary to share with the provider. However, market signals must be observed and overproduction must be discouraged if this is to work. There may be other plans which we would be willing to look at which are fair to everyone.

Consumers will continue to want a readily available food supply, a safe food supply of good quality, for a nutritious diet. There is much we can do to work together. We must share information based on research findings. The next few years promise to be challenging and exciting times. It may tax our best wisdom and ingenuity to keep everything on track, but it is well worth doing.

BIOGRAPHY

BERNICE McLEAN

Bernice McLean is currently Chairman, Food Committee, Consumers' Association of Canada (Ontario). She was Provincial President 1981-1983.

Active in CAC for over twenty years, she held various executive positions on the Windsor CAC Local Association until moving to Burlington in 1970. She became a member of the Provincial Board in 1971 when her interests included: food and nutrition, agriculture, wise use of energy, television programming and advertising to children.

She is a native of Sarnia, Ontario. After graduating from the University of Western Ontario with a B.A. (Home Economics), she attended the Ontario College of Education and later taught secondary school.

Pressures in the Agri-Food Industry in the Year 2000: "Resource Protection"

JACK DONNAN
Senior Policy Advisor
Ministry of the Environment

Linkages between environment and agriculture occur in each direction. Contamination can have very severe adverse effects on farming and food processing operations. We have studied the potential of increasing production as a result of reduced ozone concentrations in Southwestern Ontario. If those concentrations can be reduced to what we have as guidelines here in the province, we estimate that the value of increased production could be anywhere from $9 million to $23 million per year.

On the other hand, agricultural operations can have an adverse effect on the environment. In the future, linkages in this direction are going to be the most problematic and perhaps the most interesting. Interrelations between agricultural operations and environmental quality include water pollution, pesticide contamination, cost of water supply (particularly high quality water) and farmland gains and losses.

Over a billion tonnes a year of suspended solids, 85 percent of the total suspended solids estimated to go into the waterways in the province each year, are coming from agriculture. The term "suspended solids" is really a catchall term for problems like soil erosion and manure run off. Furthermore, about 58 percent of the phosphorus going into the Great Lakes and other waterways is coming from agriculture. Admittedly these are rather crude estimates, but I think the magnitudes are accurate.

Most of you are probably aware of our new Municipal Industrial Strategy for Abatement (MISA) initiative. This is aimed at reducing and hopefully eliminating toxic contaminants from Ontario's industrial municipal effluents. This initiative and others like it will result in a great deal of money and effort being directed to abatement efforts, but for the present, food processing and farming operations are exempt from the proposed MISA requirements.

However, the very large quantities of waste materials from agriculture are certainly going to attract the attention of regulatory authorities, both at the federal and provincial level, in the future. Furthermore, if MISA and other initiatives are successful, industry and municipal dischargers are going to want other identifiable pollution sources such as agriculture to do their part.

If there is a substantial amount of contaminant abatement in these other sectors, it will ultimately become cost effective to direct our abatement efforts at a sector such as agriculture. In the future, we will not get very much additional abatement in these other sectors for each dollar spent, whereas if we put the same amount of money into agriculture, we can get a substantially greater reduction.

Enforcement capabilities have increased, and currently about one in six or seven prosecutions in 1986 involved farm operations. We can expect, given the wide support for enforcement activities, that these kinds of pressures will increase where there are clear cut pollution problems.

Increased efforts to control pollution in a sector like agriculture will result in higher costs: direct costs of the pollution control activities and equipment and indirect costs as a result of higher prices for various inputs and supplies including equipment and chemicals. Costs will be cushioned somewhat for agriculture by programs like the Soil and Water Environmental Enhancement Program (SWEEP) and the Ontario Soil Conservation and Environmental Protection Assistance Program (OSCEPAP).

There are some opportunities to recoup costs resulting from pollution control as a result of the sale of recovered byproducts or savings on materials. A substantial portion of the fertilizer material is in fact not going where it could be used. A substantial amount of pollution control is fundamentally a more efficient use of materials.

Of all the different kinds of contaminants that are found in water and elsewhere, pesticide residuals probably generate the most concern. There is every reason to expect that this concern will increase. There will be increasing pressure to restrict the use of pesticides in Ontario. Moreover, if curtailments and controls continue to be applied in an ad hoc, piecemeal and uncoordinated manner as in the case of alachlor, registration of new pesticide formulations will become more difficult, time consuming and costly.

Pesticide regulatory authorities at the federal and provincial level are carrying out more sophisticated and comprehensive assessments, including risk assessments and estimates of the economic value that the pesticide is contributing to production and to the provincial economy. Such evaluations, if they become more systematic and part of the regulatory process, should make regulatory decisions more considered and less arbitrary.

To the extent that these restrictions will result in reduced food production because of uncontrolled weed and pest insect infestations, farmers may bear the initial costs. However, if these losses persist on a wide scale, price increases will hopefully follow and offset this. With world-wide food surpluses, that may not be a short term possibility.

An example of the down to earth consequences of pesticide contamination was the result of a $500,000 joint OMAF, Ontario Ministry of the Environment study, done in Southwestern Ontario. Of 200 private wells tested, fifteen were in fact positive for alachlor. Nine of these were contaminated from surface water runoff into the wells. Five were from groundwater and one was a combination of both. These wells were used for drinking and as a result, alternate provisions had to be made.

Many of these contamination situations are in fact self-inflicted. The beneficiaries of control, clean up and prevention are going to be the farm families and their neighbours themselves.

Water is a critical input to agriculture, to all industry and to life itself. Ontario is blessed with an abundance of water resources. According to the Canadian Federal Water Policy Inquiry Board, this abundance of water in Ontario and in Canada in general is somewhat illusory. There are potential factors, forces and trends that can result in local water shortages of one sort or another.

Some inland communities that depend on groundwater face finite supplies. Water use conflicts and local scarcities are a distinct possibility.

Water quality can contribute to local scarcities. Many uses of water are a function of the quality. Pollution sources include acid rain, transboundary flows of toxic atmospheric pollutants, groundwater contamination from landfills, toxic chemical leaks in the Niagara River, chemical and industrial spills and run off from agricultural lands. A number of communities in the U.S. have had to cope with reduced supplies of high quality water. In fact, we have had situations in our own province where we have had to haul in water to communities that have had contamination from groundwater. This kind of thing will not be widespread, but we must not blind ourselves to these possibilities. We are all working hard and cooperatively to curb these pollutants.

Economists have put forward the idea of putting explicit prices on measurable point source pollution discharges of certain kinds, as an effective method of inducing polluters to control their discharges. Other recommendations would place explicit prices on water, over and above what it costs to pump it and distribute it. These policy options, both water and effluent pricing, are being examined by federal and provincial governments, although no specific proposals have arisen as yet.

However, the concept of water pricing is going to gain credibility, as Great Lakes governments including Ontario, perceive growing demands for massive water diversions from the Great Lakes to the thirsty U.S. midwest. While these policies and possibilities are not necessarily directed at agriculture, agriculture will certainly be affected if they are ever implemented.

The problem of many environmental projects is that costs are easily estimated and clearly borne by specific groups, but the benefits are not that clearly quantifiable and are distributed over a wide group of people, many of whom do not realize they are obtaining these benefits.

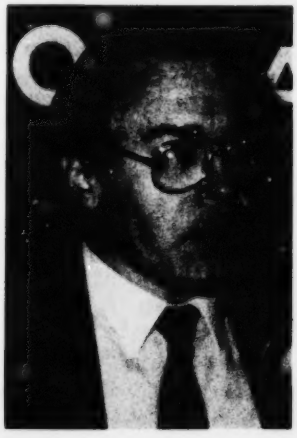
Environmental protection requirements for the agri-industry will likely increase in the future. Clear cut violations of environmental statutes by farmers will have a high probability of being prosecuted.

Compliance with environmental requirements will, in many instances, result in increased input prices and production costs for farmers and food processors. Environmental costs for agriculture will be relatively modest in comparison with other components, such as labour, equipment, interest and fuel. In response to these costs, the agri-food sector will become leaner, meaner and more conservative in the use of materials.

There are substantial opportunities for benefits and pay-offs to farmers and the food processors from environmental protection in terms of health protection for farm families, increased returns for farming operations, particularly from erosion control and reduced input costs or byproduct recovery revenues for food processors and in some cases, farming.

Greater cooperation among environmental protection authorities, our Ministry, our counterparts in OMAF and the agri-food industry will help to ensure compliance with environmental protection requirements that is fair, efficient and in the best interests of all.

BIOGRAPHY



JACK A. DONNAN

Jack A. Donnan, after Ph.D. work at the University of Rhode Island specializing in resource and energy economics, has been with the Ministry of the Environment for thirteen years. Dr. Donnan has worked on issues and problems including acid rain, rehabilitation of mercury contaminated rivers, oil well brine disposal in Southwest Ontario, the economic impacts of environmental requirements, and the benefits of pollution control to agriculture, industry and to the public at large. Activities have included designing and implementing the economic component to the Municipal Industrial Abatement Strategy and contributing to the development of a policy requiring municipalities and firms to deposit financial security with the government to help ensure that abatement work is completed according to specifications.

Pressures in the Agri-Food Industry in the Year 2000: "Changing Values"

TOM OEGEMA
President
Christian Farmers Federation of Ontario

To try to look ahead to the year 2000 and make predictions about pressures in the food system is a highly speculative and probably inaccurate exercise. Nevertheless, this look ahead is valuable, forcing us to think about where present trends could take us, if left unaltered. It also puts the question before us, whether we like what we see, and if not, what we individually or as government should do about it.

I classify the pressures on the agri-food business in the year 2000 into three broad categories: ecological, socio-economic and changing value systems. These three categories are very much interrelated, but for the purpose of analysis, we can isolate and label them.

First, the ecological pressures. The contamination of the air, water and soil by massive amounts of chemicals, pollutants and garbage is worrisome. There are limits to how much the ecosystem can absorb on a sustained basis. Ozone, acid rain, and toxic residues in soil, water and food can have devastating consequences in large areas of the globe.

When biological systems are overloaded, the damage can be severe and permanent. Even though nature has tremendous recuperative powers, it may require several lifetimes to restore a damaged environment. This is small comfort to those whose lives or livelihoods have been affected.

Soil erosion and degradation will continue to threaten the ability to grow crops economically in many areas. Farmers and governments must become serious about fostering a conservation ethic and must actively work together to fight these problems. Failure to do this can lead to large areas of farmland becoming unsuitable for growing crops.

Paradoxical as it may seem in this period of surplus, the protection of foodland will become more vital to the survival of healthy agriculture in Ontario. The present pattern of putting 80 percent of our development on prime foodland is morally wrong, using up a relatively scarce resource when other alternatives are available. To make land use planning equitable and workable, strong provincial legislation is required.

The second area is socioeconomic. Last year's conference made some pretty melancholy predictions for the near future of agriculture. Today, we are facing those realities. Canadian agriculture's dependence on exports and the international economy has brought with it a high degree of vulnerability. Our ministers of agriculture, at both federal and provincial levels, are powerless to change these underlying international events and policies. As Canadian farmers are squeezed, they will put increasing pressures on the various levels of government.

Compounding the problem of low commodity prices is the uneven distribution of debt. There is about $21 billion of debt outstanding by Canadian farmers. If that debt were equally shared by all Canadian farmers, it would amount to about $55,000 per farm, not a worrisome amount. However, statistics are somewhat like sausages, they look great until you know what goes into them.

Many farms have very little debt. On the other hand, a relatively small percentage carry a lot of debt. In the U.S., 15 percent of the farms carry 28 percent of the debt, but they have only 9 percent of the assets. The Canadian situation is probably similar. With the value of the asset base declining because of decreasing land values, many of these farms are beyond salvaging. A significant number of farmers will have to either give up ownership of their farm or persuade their lender to set aside or write off a significant portion of their debt. This is a painful process for both the farmer and the lender.

The danger of an extended period of low commodity prices is that more and more farmers are pushed into higher debt because of operating losses, to the point where their operations become non-viable. The exit of too many farmers and their families from a rural area can undermine the viability of many villages, towns and regions. The cost in human terms is very high.

Without sufficient income from farm production, there will be significant changes in the social structure of rural Canada. The family farm has been the traditional unit of production. The family farm will continue in the future, but we will see changes in the size and the structure of family farms. To reduce vulnerability, farmers will move away from single commodity specialization and diversify into two or three commodities. The capital intensive nature of agriculture will force some farms to become larger. Others may be forced to downsize and eliminate some costly machinery.

The commercial family farm, which I would define as those farms that can support full-time employment, is likely to become organized as a family corporation or partnership. Already a significant portion of production comes from this type of farm. At the other end of the spectrum we have the increasing importance of part-time farming, either by choice or by necessity. I expect that by the end of the century, the number of commercial farmers will have shrunk and the number of part-time farmers will increase.

This mixture of farm types presents real policy dilemmas for governments. If policies and programs are to support production, a simple subsidy per unit of production is wondrously effective. Witness the bounty of the European Community harvests. In times of surpluses, you do not want to stimulate production. You want to maintain a viable group of farmers. Thus there will be considerable pressures on governments to help farmers with widely divergent needs.

Targetting is clearly an objective that needs to be pursued, raising questions of eligibility criteria and program objectives, and involving value judgements that politicians and bureaucrats have a hard time with. There will also be pressure on government to scrutinize the effects of the public policy of investment tax credits, capital gains exemptions, tax writeoffs, cash accounting, grants and stabilization programs. Over the long range of 10 to 15 years, these provisions benefit the large established farmers much more than the smaller, beginning or struggling farmer.

One last item under the heading of socioeconomic pressure is the increasing disparity between the supply managed sectors of agriculture, mainly dairy and poultry, and the rest. Inevitably, the inability to purchase quota, because of price or lack of availability, could produce a lot of resentment in the farm community.

The last item that will produce pressures on our system is changing value systems. With the bringing home of the Canadian Constitution and the coming into force of the Charter of Rights, there is a new judicial and legal mood in the country. A lot of traditional concepts and rulings are being challenged. In the new legal framework, the rights of the individual are seen as more important than those of families or communities. Anti-discrimination provisions with regard to gender, sexual orientation, race, religion, creed, etc. are indeed helpful in righting some wrongs. But they also tend to have a levelling effect on value systems.

The Judeo-Christian teachings, that the greatest commandment is to love God above all else and your neighbour as yourself, has been replaced by the "enlightened" belief that the greatest good is the pursuit of one's own happiness. While not for one moment denying that individual happiness is important, it is not to be found at the expense and well-being of others. The preoccupation with individual rights is undermining a number of social structures which are foundational to a healthy and happy society.

Increasing number of families are fractured by divorce. Not only does this leave painful scars on the husbands and wives, but also on their children. There will be increasing pressure on society to provide support services to both the children and the resultant single parent. I am not suggesting that the government should not do that. I am pointing out that the erosion of traditional value systems, such as marriage and family, do have grave consequences for both individuals and the state.

Our public education system will also increasingly face a moral crisis. If, by definition, the public school system is supposed to be neutral with regard to various religions and value systems, then what or whose value system do they teach? Thousands of parents across Ontario are already choosing to send their children to private or independent schools, which teach in the context of a value system that is supportive of that of the parents. There will be increasing pressure on government to provide for a more pluralistic education system.

Marriage, family and school form such an integral foundational part of our society and therefore also of the family farm, that what affects them also touches the well-being of farmers. In case of marriage breakups, the fifty-fifty split of assets mandated by law will cause the breakup of many farms and can have devastating consequences for partnerships and family corporations.

Since corporations are treated as individuals before the law, we could see the power of corporations increase in our society as opposed to that of families, institutions, or communities. Increasing concentration of ownership in the food industry could also be a result.

I do not wish to be seen as some right wing reactionary who wishes to turn back the clock and deny the legitimate rights of individuals. My concern is that there is a lack of balance between individual versus communal or institutional rights and the underlying value system that favours the rights of individuals but does not adequately balance that with responsibilities.

I represent an organization that is up-front with the value system that it seeks and represents. Value systems are the expression of people's deeply held beliefs. These beliefs are rooted in our hearts and are religious in nature. It is at this level that we must make basic decisions about which way to go.

BIOGRAPHY

TOM OEGEMA

Tom Oegema is President of the Christian Farmers Federation of Ontario. Before assuming this position in 1982 he has served as Vice President and Treasurer.

Mr. Oegema lives in Talbotville, Ontario, where he operates a turkey and cash crop farm with his brothers. He has been a director of the Elgin County Soils and Crops Improvement Association and is currently a member of the Advisory Committee of the Agricultural Leadership Trust.

Mr. Oegema holds a B.Sc. (Agr.) and a M.Sc. degree from the University of Guelph.

Pressures in the Agri-Food Industry in the Year 2000: "Comments (C), Questions (Q) and Answers (A)"

C. I hear many people talking about the role of agricultural exports in Ontario, in Canada and, in effect, around the world. I think it is important to remember that exporting is not a right, just because we have exported for years. Importing countries have chosen, often with the support of Canada, to increase their own production and become self sufficient. That trend should be recognized as something that is very good for those countries.

C. On the topic of trade, as a result of our interdependence we are told that we must reduce our costs and be world competitive. There are some advantages to competitiveness, but I am not sure that we should depend on it entirely. I understand that our Canadian steel industry is more efficient than the United States' steel industry and yet our steel producers in Canada are voluntarily reducing their exports to the U.S. in order to avoid trade problems and trade restrictions. I am not sure how much of a benefit their world competitiveness is.

With regard to our forest industry, I understand that our forest industry is more efficient and more competitive than that of the United States and yet they have run into trade problems.

It leads me to believe that we must depend more on managed trade rather than on world competitiveness. With particular reference to those parts of our Ontario farming industry that are currently practising supply management, I think when faced with this, they would be ill advised to give up their supply management programs.

Q. I wonder if consumers' needs are also reflected in industries' needs. The hospitality industry is one of the largest industries purchasing agri-food products. Clearly it is important to be aware of and be sensitive to what their needs are.

In respect to the appearance of the food, the industry may prefer California fruit or produce over the domestic one because it is cleaner and hence requires less labour to prepare. When purchasing canned food, there may be a preference for consistently firm Australian peaches compared to the Niagara Peninsula's peaches. Taste is not always a major factor for any consumer as you might know. Why does one industry prefer one country's product over the other? Is it indeed quality or is it the appearance of quality?

A. The consumer in the supermarket may be more sensitive and more patriotic as opposed to a chef who is in a kitchen at a corporate hotel and who looks at profitability and the yield as well as the flavour or appearance.

The tendency is to bring more and more imported specialty food items in, perhaps because consumers want a greater variety of food products and we in Ontario have not been sensitive enough to listen to those needs, and introduce domestic products to replace the imports.

We in Ontario tend to grow larger. We believe very often that larger is better. One particular import item, green beans from Kenya, are a fraction of the size of the domestic beans, but much more flavourful and nutty. They also yield much more.

The most important thing is quality, but if the produce is presented well and is clean and fresh, that is going to influence the consumer as well. As you said, appearance is important. But we can have appearance and quality too. For example, if our first strawberries in Ontario are sweet, presented well and are of good quality, the flavour should be a little better or maybe different from the strawberries that are picked several days ahead and transported. Both in home and industrial consumers would prefer to purchase the local product, all other factors being equal.

From a limited knowledge of nutrition, green beans, if picked and eaten almost immediately, or certainly within hours, have better flavour and nutrition. I think the consumer must be educated. If the green beans come from Kenya, they are going to have several days on the road. Maybe appearance and flavour are there, but certainly the nutritional value has gone down. Consumers might be better to buy Ontario grown frozen green beans, as far as food value is concerned. It is a matter of consumer education and promotion.

Changing Structure and Public Perception of the Agri-Food Industry

LAUREN SOTH
Farm Journalist

We North Americans like to make things big. We like to sell more. We value volume over quality. It is a religious faith. In many ways this faith governs our approach to farm and food policy. With surpluses of major crops clogging our granaries, we are pushing as hard as ever for improvements in technology in the direction of more production. Right now in the U.S., governors and legislators are promoting farm research as a means out of the farm depression: not research on how to manage the surplus, but on how to create more of it.

North American agriculture (including farm input supply, farm product marketing, processing, transportation), has not done well in setting goals and directions for the research itself. I do not oppose scientific study, but rather the reckless application of new knowledge to generate new technology without consideration of all its effects.

The classical stereotype, an individual scientist working in a garret or a barn, is almost obsolete. All major scientific research is done by large institutions. To do elaborate research in gene splicing, for example, you must be part of a large institution with a laboratory and money.

The institution provides management and control. Somebody decides whether you are going to study beans or corn, pigs or sheep, soil, rainfall or acid rain. It is no accident that we pour so many dollars into farm production research. The entire agricultural establishment is hooked on game scoring. The game score is measured in bushels per acre, pounds of gain per unit of feed, and so on. Research administrators count their productivity triumphs without even mentioning the side effects. Some are rather unpleasant.

Output per unit of land is inadequate as a measure of productivity. Other inputs go into agriculture. The bushels per acre standard ignores inputs of energy, soil and water. Taking into account energy consumption, soil losses and water pollution, I would question whether adding fifteen bushels of corn per acre, through chemical use, is worth the cost. Our universities do not discuss this subject very deeply.

Most cost of production estimates are misguided because we do not really get at externalities. We do not question if government subsidies which keep farmers producing at the maximum are worth the cost to the taxpayer. Price supports and payments of subsidies to farmers ought to be considered subsidies to agribusiness. Agribusiness profits the most from keeping the farm at a high rate of production.

The U.S. Department of Agriculture and the rest of the government apparatus for agriculture have centered their attention on greater output to such an extent that they have resisted any attempts to regulate the use of chemicals, even those found to be dangerous to public health. The USDA was a patsy with respect to the regulation of agricultural chemicals. Congress finally took the job away. The Council for Agricultural Science and Technology and agricultural colleges have conducted a stout defense of chemical farming. Reports generated by task forces from the land grant system see no harm in one or another form of insecticide or herbicide. One might think the task forces were employed by Dow or Monsanto, rather than the public.

However, Iowa State University is beginning a study of minimum use of fertilizers and pesticides in the North East Iowa area. That part of Iowa is hilly so that fertilizer and pesticide runoff is a problem. The land grant institutions should have been doing this sort of thing long ago.

Even the Environmental Protection Agency (EPA), which was created, in part, to take over the regulation of agricultural chemicals, has been downplaying health hazards and water pollution and has favoured the continued wide use of chemicals. Just lately, the EPA refused to ban Alachlor, generally known as Lasso, despite evidence that it is seeping into our groundwater. It may cause cancer in humans, as it has been found to do in lab animals.

The EPA even adopted the standard experimental station propaganda that there would be a heavy financial loss for farmers if they did not use Alachlor or use so much of it. This is in a period when we have a great surplus of commodities which are produced with the help of Lasso.

The first user of a new seed or a new machine or a new chemical may show a financial gain. However, the speed at which modern North American agriculture adopts new seeds and new methods is such that, very quickly you have an outpouring of output which reduces net farm income because of the inelastic demand for food. Demand is especially inelastic in rich societies such as ours. More production means lower income for farmers in the aggregate.

The rapid introduction of new technology causes agonizing problems of adjustment. Problems of adjustment occur in the structure of the farm as well as in the industry, in ownership of land and other resources, and in the structure of rural communities, public schools, churches, and business firms. This kind of adjustment has been going on at a rapid pace for forty-five to fifty years. One may well point out that migration out of agriculture into urban life and occupations has been going on for about 5,000 years.

However, adjustment is becoming very difficult to handle in a modern society with our cultural and economic standards. For much of the post war period, the adjustment has been fairly smooth. The world economy grew at a faster rate than ever before. From 1950 to 1975, North America had the fastest growth ever experienced on earth.

Those who left farming were able to get non-farm jobs readily. That is not the case today. The way to solve this farm problem is not through legislation, but by bringing non-farm industry into rural areas. The real adjustment should be a non-farm adjustment, by bringing more jobs into small towns and rural areas to take up the extra labour.

Those who have been able to stay in farming have benefitted, because government programs offset the effects of producing more output than the market wants.

In my view, the largest part of the adjustment, forcing people out of North American agriculture, has already taken place. About 35 million people lived on U.S. and Canadian farms in 1940. The figure today is about 7 million. I do not think the number of people actually living on farms is going to change much more.

There will be further changes in the size of farms, the proportion of hired to family workers and the concentration of commercial production. We are going to have a concentration toward big farming, commercial farming, fewer farms, fewer people at the top, and toward many more part-time farmers.

The main question related to the structure of the farm industry is how much concentration we want to have at the top. If there were a market operating freely, I would say 'et the market decide, but U.S. and Canadian programs tend to favour the big operator and put the emphasis on production. That is not a free market.

What value will we place on maintaining a large number of farms that can be operated essentially by a single family? The rhetoric of farm politics has always placed a very high value on the family farm. In practice, however, our system of public research, education and government farm support policies has contributed to the demolition of the family farm. If we are really serious about upholding the moderate-sized farm, we would pass some laws giving the family farm an equal playing field. At least we should take away the special government favours for the big farms. The family farm has been replaced by large-scale specialized farms, almost a factory system, in poultry and to some extent in meat animals and dairy.

Whatever the structure of our farming industry, in the modern world of uncertainty we are going to continue to need the hand of the government to help balance supply with demand, especially in order to conserve resources.

The Food Security Act of 1985 sets standards of carry over stocks to be reached before the government tries to control acreage. The standard is 2 billion bushels for corn and 1 billion bushels for wheat. By these standards, in 1985 we had about 40 percent more land in corn and 30 percent more land in wheat than was necessary.

It is estimated that 30-40 percent of farm chemicals are being wasted. Total usage is far beyond what is needed for crop production. Both fertilizers and pesticides can be dangerous to public health. These chemicals contribute to soil erosion, since they make possible continuous planting of crops like soybeans and corn. I suggest that the use of these chemicals ought to be controlled via government farm policy. Rationing of fertilizer and pesticides surely would be as efficient as trying to ration the use of land.

My favourite solution would be to apply excise taxes on fertilizer, insecticides and herbicides to control chemical usage. In the interest of equity and fairness, the bigger the use of product, the higher would be the rate, just like a progressive income tax.

I am fully aware of the benefits of agricultural science, the benefits of food abundance, and low cost food. You have to balance these against the risk of overproduction which hurts the producer, and the risk of chemical farming which risks our health. We ought to take those considerations into account more than we have.

The makers of farm chemicals and other farm inputs would be hurt by the policy which I am advocating. However, I think we could handle it if we really used our political skill. The research establishment is now working hard on biotechnical means of curbing insect damage to crops. Some theorists believe it is possible to attach nitrogen fixation ability to food crops like corn and wheat. All power to them. It would be wonderful if that sort of progress could be made, but in the meantime, let us concentrate on reducing the overuse of chemicals in our fields.

BIOGRAPHY

LAUREN SOTH

Lauren Soth graduated from Iowa State University in agricultural journalism in 1932 and received a master's degree in economics from that institution in 1938.

Soth was in charge of economic publications for Iowa State University from 1934 to 1947. In 1936-37 he was on leave in Washington, D.C. with the U.S. Department of Agriculture as an editor-writer. He joined the Des Moines Register and Tribune as an editorial writer in 1947 and was named editor of editorial pages in 1954. He retired in 1975 and now writes an opinion column for The Register. He was winner of the 1956 Pulitzer prize for editorial writing for editorials in 1955 which brought about the exchange of farm delegations with the Soviet Union. He was a member of the U.S. agricultural delegation to the Soviet Union in 1955.

Competitive Advantages: Creating and Sustaining Superior Performance

JERRY WHITE
President
Mother's Restaurants Limited

The focus of this afternoon is the application of strategic planning components to market opportunities that will exist within the agri-business sector over the coming years. We try to identify opportunities, first by looking at deficiencies and then by developing some specific action plans. Without adequate research there is no way of finding out what is going to happen. Without dedication, it will not happen. Without proper training and development, it is not going to happen. When we keep everything confidential it is not going to happen either. The essence of strategic planning is to communicate what we finally produce.

This is a great province, a pretty dynamic place. As we move across the country, we see that Ontario is really the salvation for the entire nation. In the sense of our ability to produce and to generate and create, it really is an exciting place. Just think about the realities of opportunities that do exist. This will give you a feeling for the way I look at things, which may not be consistent with a lot of other people's thoughts.

Let me give you a little background in terms of what I primarily consider myself: a consumer. Mother's Restaurants is the largest pizza and pasta operation in this country. We have a presence in the U.S. and are about to open a major presence in the U.K. We employ over 5,000 people and consume enormous amounts of Canadian products. During the past twelve months we used over a million kilograms of cheese products produced in this country. That is a lot of cheese.

We use nearly 15,000 cases of canned tomato products produced in the province of Ontario. This year we will consume over 20,000 cases. We utilize over a million chickens a year. We utilize millions of pounds of flour, and hundreds of thousands of pounds of other products such as fruits, vegetables, sauces, condiments and other wonderful things. If we do not make a product, we buy it domestically.

We advertise ourselves as Canada's largest seller of Canadian produced beer products. We are second only to McDonald's in the sale of Coke, which is pretty impressive. Our manufacturing operation produces millions of dollars worth of products which we wholesale to the food service and hospitality industry. This year we are adding thirty-five new full-service units, and increasing our Canadian source purchases by an incremental $20 million. It shows that we have a vested interest in this marketplace. We are concerned about sources of supply, quality, research and development, and we are concerned about the future, because the future of this industry in many ways determines our future.

We are very firmly committed to the idea of quality fresh foods, giving people excellent value in a comfortable relaxed environment. The essence of everything we try to create is the fact that, what we buy, we buy domestically from the best possible sources. We will continue to expand our purchases dramatically over time. We are only interested in the best. Wherever possible we buy in our local markets.

I have written and spoken extensively on the subject of marketing. I think my key note article was a feature dated November 1985 in En Route Magazine for Air Canada. It was: "Excellence in Canadian Marketing, a Contradiction in Terms". It was a strong indictment of the poor quality of marketing activity in this country. Marketing is critical to everybody's survival. Marketing problems are pervasive and recurrent throughout the entire industry.

There is a lack of long term planning and long term insight into market opportunities. In many ways we find a lack of pragmatism in government planning. Although it is well intentioned, government planning is simply not based around the realities of the marketplace. Government planning tries to serve too many masters and ends up serving none.

Mother's defines itself as a world organization. The world is our marketplace. Although there are barriers everywhere in the world, superior products, well packaged and well marketed, will sell. That is part of the reality.

We also stick to what we know best. We have found that throughout the entire industry from top to bottom, there is grossly insufficient funding for research and development and new product development. There is no shortage of demand: only a serious shortage of product, in the right configuration and the right package, with the right process, and the right components to meet the actual needs of the marketplace. If you do not provide it, somebody else will.

This is a bottom up problem and a top down problem. The bottom of the market has no idea what is going on upstairs. The people at the top do not bother to sift through all their bad experiences to find one or two good people who can meet their needs. As a result, they look at the international market to try to find good suppliers.

What is it we are trying to achieve? Where do we want to go? I think we all have the same basic three objectives. Everybody wants to get higher prices and greater volumes along the way, which are not contradictory terms. We all want long term stable growth. Finally, we all want profitability.

Everybody is concerned about higher prices and greater volumes. That is a very basic and solid objective for everybody to try to achieve. There has been excessive intervention in the marketplace, especially on the part of certain marketing boards who perceive that they can act on an ad hoc basis. They damage the marketplace for the sources of supply and also for the consumer.

This year, for example, we were confronted with another major increase in the price of milk. Fine, farmers have to make more money. One cannot, however, automatically

impose price increases without doing proper analysis as to the question of price elasticity of demand. How much demand will be lost as a result of those price increases? Nobody ever bothers to analyze that. Even worse, nobody ever bothers to contact the major consumers in that marketplace to say: "How is it going to impact upon you?".

I know how it impacts upon me as the largest single consumer of cheese products produced in this country. I try to find alternative sources of supply, or cheaper sources of supply, or, if everything else fails, a poor quality product which is contrary to our corporate objectives. We try everything possible to get around those price increases. We have terminated one of our largest national suppliers because they tried to pass the entire increase onto us. As an monopsonistic consumer in this marketplace we will not be dictated to, by any side of the marketplace, without prior consultation. If anybody tries to fool with us, I assure you we are a little stronger and a little smarter than most of them. That is the way we do business. If we change suppliers, somebody loses a lot.

Nobody every bothers to ask, nobody calls, nobody knocks on the door, nobody gives "what if" scenarios. The milk price increase came all of a sudden. In my system, we have a large number of franchisees. I cannot explain sudden large price increases to those franchisees who have to make a living. What I can do is work to protect their interests and maximize their profits. I will not be dealt with on an arbitrary basis again by any other marketing board unless they are prepared to come to me with solid detailed data that validates their decision-making, with consultation in the industry. That is a basic if there is to be a future.

Let me assure you that there are rules and regulations in the marketplace to prevent us from seeking alternative suppliers offshore. That is all part of the competitive Canadian system. It was once called "free enterprise", but for whom I have no idea.

I have not yet attended a trade show or conference in the U.S. where there has been anything but American suppliers. There is never a Canadian supplier. You can get a government grant to go to trade shows by the way, which pays 50 percent of the cost. It is worth going down there.

The market in the U.S. continues to grow at an increasing rate. The current size is approximately $500 billion dollars this year. U.S. companies attack us from all sides. They deliver better quality products. They are prepared to eat some of their cost. They are not governed by the same rules and regulations. They can deliver to us better quality processed food products as well as better quality basic products at a lower price than we can buy domestically. They are confronted with duties, import regulations and certain health requirements, but they are prepared to meet all of them to deliver the product to us. They are prepared to do that, but the Canadian industrial sector refuses. There is no discussion, no consultation, no communication. But our company objective is still there.

The second objective is long term stable growth. We have gone through periods of rapid fluctuations. That is a reality we have to deal with. Unless we are able to develop products and services that meet the changing needs of our Canadian marketplace, and innovate, we are always going to be confronted with those peaks and valleys. We must be able to develop strategies that even those out.

The third element is profitability for all of the components in the channel. That means profitability for the farmer, the processor and the end consumer. We cannot ignore any of those components. There must be a good deal for everybody in building this strategy for the long term, and I mean a good deal for *everybody*. Everybody must be allowed a fair return on investment. I do not ask for outrageous returns. I like to take a long term prospective. I would like to look many years down the road, but I am not prepared to accept negative returns or be confronted with excessive cost increases, which in turn eat away at our bottom line. No other Canadian consumer group is prepared to accept that. At the same time, we recognize everybody is entitled to make a reasonable return.

There is a dramatic and serious lack of forward integration in the marketplace. There is greater opportunity than ever before for people in the producing side of the marketplace, the suppliers, to integrate together with people in various other sectors.

The debacles in this sector have been unbelievable along the way. The essence of the restaurant business is that first of all you must have food. You must have food that people will eat. You must also have food that people will pay for and will come back for. Consider the pork producers' restaurant and the turkey producers' restaurant. These restaurants were opened with great fanfare. The fact that there was no market research, no business plan, no viable menu, no site nor selection criteria, no operations criteria, no floor plan design, no expansion potential, did not seem to concern anybody. Great sums of money were lost.

In spite of this example, I believe there are viable opportunities in forward integration. A major Canadian processor of Ontario produced agricultural products, largely involved in canning and sauces, came to us with the idea that he wanted to be in the restaurant business. But, being the intelligent person that he is, he admitted that he did not know anything about the restaurant business. He wanted us to build it, and use his products in it. He wanted us to tell him what to do and how to do it.

As you know, the major food retailers are not giving Canadian companies any more shelf space. If you are a middle market company there is no future. If you are bottom end or top end maybe there is a possibility. The company who joined us in the restaurant venture wanted to control its future. They decided that forward integration is the route. We have been working on this particular venture now for a year and a half. About a year from now the actual first concept will be open. We will have done our homework.

Other types of forward integration are in the areas of processing of products. There have been some wonderful success stories of the processing of basic products into more tangible uses for the end consumer. However, because of the gross lack of expenditure on research and development, nobody knows what is needed. Nobody has taken the responsibility and assumed the burden for finding out what consumers want to buy.

People tell me they have started a new venture and they are making a product. I tell them that is nice, and ask them who

needs it, where is the market research, and where is the plan behind all of it. They respond that they do not have money for any of that sort of stuff. They just make things.

This illustrates a failing of the strategic planning process and a failing of the human mind. We, per capita in this industry, spend less than any other country in the western world, researching the opportunities for products in the marketplace, whether retail, wholesale, institutional or whatever. As a result, people who are trying to produce something have no place to go if they have excess product. They have no guarantee of long term potential, no guarantee of profitability, because nobody is doing any research to identify how these products can be used in new and different ways. As a major consumer, I want quality companies to say "We have done our homework, what are your needs?".

This brings me to the third element on that list. I had the opportunity to interview Tom Peters on my radio show. I said to him, if he could hang onto only one of the eight points in his book "In Search of Excellence", which it would be. The one thing that he chose is customer contact. That is the only thing that has true long term validity. Everything else is really irrelevant.

Customer contact seems to be totally lacking within the agri-food sector. We have government in one place, farmers in another, processors somewhere else, and we have consumers lost in space. At least that is the way consumers are treated. With quality customer contact, by people doing research, communicating, attending conferences and trade shows, meeting with the food service and hospitality industry, determining what their needs are and how those needs are changing, all of a sudden all of our basic objectives get achieved. We make real profits on a long term basis with higher sales and higher prices because you are meeting people's needs. People are prepared to pay premium dollars for products and services that meet their needs in the right configurations.

Needs change constantly over time. There are still people trying to sell products and package sizes for which there is no longer a market. Everything changes over time.

It is incomprehensible that an industry which has so many intelligent people in isolation would ever be caught short. Yet consider the transformation created by McDonald's when they introduced Chicken McNuggets. That had a dramatic impact on the chicken side of the marketplace. This forecast of change had been written about three years previously, yet there was a severe shortage of chicken product.

Even today, as a major consumer of chicken products, my company does not get chicken in the right configuration, the right portions and in the right volume to meet our growing needs. These are dramatically growing needs, which have been announced for years. Nobody every bothers to listen or call or interact or deal with the key issue of consumer demand.

These are the five key dimensions that are critical for the future of this sector, if there is to be a future. First is the question of customer contact. Let me assure you it is a major reality and a major failing of the entire sector. Nobody ever bothers to ask.

Second is detailed ongoing dynamic quality market research. You get what you pay for. Because nobody carries out research or does so in enough volume, products are not being produced to meet people's needs. Farmers are stuck with excess capacity. Producers are stuck with excess product. Everybody is stuck with a flat line in terms of growth. Everybody seems prepared to accept negative growth. Let me assure you, I will not. I do not tolerate non-performance. Neither should you. The secret for breaking that chain is to be able to spend money on research to determine the changing and transforming needs.

Third is innovation. There is a Canadian rule of innovation which states, "If somebody else hasn't done it first, it probably won't work." The world is starving for innovation. The world is starving for Canadian innovation, especially in the agri-food sector. If there is to be a year 2000, we have to innovate now. We have to take the risk, spend the money, produce the product and in turn sell it to somebody, somewhere outside of the borders of this province. We have to think about internationalization of what we produce. We have to take that word Canadian off the front of everything we make, and think about ourselves as world class competitors no matter how small we may be.

I worked with a producer/dealer who dealt in mustard seed. He asked what he should do with his mustard seed. I suggested that perhaps he make mustard with it. He said there was no market there, and I suggested he do a little research. We spent about $3,000 which was paid for by the Ministry of Industry and Trade. We discovered that there were enormous export markets for specially produced mustards.

We sent him down to a trade show in Dallas. The Federal Department of Industry Trade and Commerce paid 50 percent of his cost: airfare, hotels, meals and the cost of the trade show in Dallas. He showed up in Dallas and said, "Well I sort of make these mustards, I am in Toronto, and actually, um, I am sort of a Canadian."

They said that it looked like a great product. They wanted to try it. They thought it was wonderful. They could not buy it anywhere else. He took orders for $500,000 that day, and another $500,000 by the end of the year.

You will find his product in Paris, London and wherever else there are major food stores in the world. The poor fellow who came to us two years ago is now doing $3 million a year in sales in that retail sector on a world class basis. But I bet he does not sell $50,000 worth of his product in this country. That is called customer contact. That is called market research. That is called innovation. That is called internationalization.

I have nothing against Canada. But unless we look upon the world as a marketplace, we have no future. I do not know why the fear of expanding internationally exists, why people are not doing it. A year ago, one of my clients and I flew to China. We went around with his product, potato chips. The Chinese that we spoke with did not even know what a potato was, but they thought potato chips were fantastic.

They wanted to set up a little factory to make potato chips in the town we were in. They offered to give us the land, building and equipment for twenty years, and the labour force. The maximum salary was to be $50 per month. We were to receive 50 percent of the bottom line if we made a profit. There would be no import requirements, no export duties. All we had to do is show up, use our brains, make potato chips and sell to all of Southeast Asia.

They were prepared to buy twenty year old Canadian technology, put in a potato chip factory and give us 50 percent of the bottom line because somebody showed them what a potato chip was. They were even prepared to buy Canadian potatoes for the next year or two, until they figure out how to grow their own. That is opportunity. That is the world market. I cannot understand this fear, this conservatism, this negativism, this unwillingness to take risks.

The final element, the final magical component of this entire process, is the key element called leadership. You can manage land, building and equipment. You cannot manage people. You can only provide leadership.

Where is leadership supposed to come from? It is supposed to come from the top. Every politician will try and tell you all the things he cannot do but would like to do. If politicians would stay out of the marketplace maybe there would be a future to it.

Leadership is sadly lacking. You as individuals have to take that responsibility for leadership. You can never abdicate it. You as individual farmers, as processors, each one of you has to become a true entrepreneur, committed to meeting the needs of that marketplace. You may have limited resources, but if you do a better job than other people, you are going to survive. If you are more innovative than other people you are going to survive. It all comes down to that magical process called leadership. There is nothing more to it than that. If you know how to lead, management follows, and quality management is just a little way down the road. That is the sequence.

Gatherings like this are wonderful because they allow people to exchange ideas. New thoughts are stimulated in your minds. Some of you may actually go out and try to do something along the way. I hope you do.

I wish you would get excited enough and motivated enough and turned on enough about the future potential of this sector, not to throw your hands up in the air and say, "We have no future, and it's everybody else's fault but mine." Take responsibility for your own individual destiny and say, "Yes, this is my responsibility. Yes, I am going to do something about it. These are the specific action plans I intend to implement." That is the only salvation. This is not negotiable. If you take the opposite tack of leaving it to somebody else and abdicate the leadership, there will be no year 2000 to talk about. I do not think I am exaggerating.

The other problems I have seen are the structures and layers we have in the industry. There are too many layers between the initial producer and the end consumer. This in turn creates too many filters of information and needs.

Neither does there seem to be any relationship between the strategies that people have tried to develop and the actual structure of the industry.

That is the challenge. Are we prepared to become world class? Are we a bunch of parochial little people domiciled in some nondescript location or are we prepared to take on the world class competition and become international producers of quality products and services that truly meet the changing needs of that marketplace? It is your choice. It is your decision. I cannot help you.

I know that we as consumers will continue to survive and grow. We will do our best to work with everybody, we will talk to you, we will give you information, we will help you in any way we can. But you have to talk to us.

Q. I find a lot of confusion in the thoughts of people in trying to differentiate between market research and marketing research. I would like your comments on how you differentiate between the two.

A. Marketing research tries to identify more effective ways of selling the right things to the right people at the right price and in the right package. Market research is more concerned about identifying long term needs and how those needs may be changing. I think that they are closely interrelated, but we must understand not just the consumers' side of that market, we must also understand the producers' side of that market and integrate all of that into a strategy. The only problem is that domestically, the bulk of strategy has been developed as a result of government and academic research which has been of a short term nature, basically from year to year. This does not work. In the agricultural sector we need 3 to 5 year cycles to be able to develop long term potential.

Q. What agencies, groups, organizations or governments should carry the major responsibility for "market research" as you have defined it and "marketing research" as you have defined it?

A. Some of the long term market research should be the responsibility of the government. I think generally between government and the academic community, some research is actually quite insightful and quite brilliant at times. In terms of the marketing research side of it, I think that is largely the responsibility of the private sector. I wish they would do some of it, sometime, somewhere, because it sure is not being done now.

Q. I want to follow up on your point on leadership. What do you do for your executives in your organization in the leadership training area.

A. I believe leadership comes from example. You have to act as a role model for the people with whom you have to work. Secondly, you have to make sure that there is matching responsibility and authority at all times so that the place runs very well without you. This is a key element. Third, you have to give people a piece of the action. People want to share the success of the organization. Fourth, if employees come up with an idea that cuts costs, improves product quality, enhances customer service, or in some way is directly involved with community involvement of a major nature, I am prepared to give them cash. I will be giving away over a million dollars in cash to our people at all levels.

Another element is that some of our top performers will be allowed to own their own businesses. We have given people long term career paths. We are probably spending more per capita than any other food service firm in this country on development and training. In association with George Brown College in Toronto, we are setting up the Mother's Management Centre, which will offer to all of our management people, from restaurant managers on up, the opportunity to get what I would like to consider the most advanced hospitality and food service training available in North America.

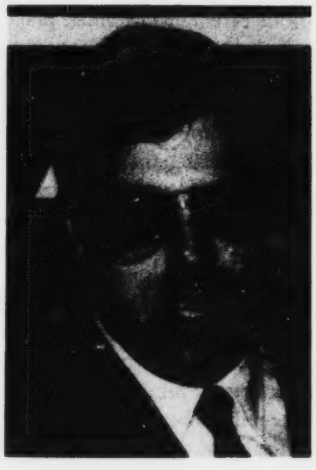
The way in which we outperform our competition is through our people. Nothing else works. Unless people are motivated, excited and well trained, and can see long term career paths and security and get a piece of the action, there is no future for the organization. We are not in the real estate business. We are not in the "franchising business" as it is perceived by some people. There must be motivation. I will support anybody in any new venture.

We are also spending more than any other firm in this country in Canadian research and development for new products and services to meet our customers needs. We are second only to McDonald's in terms of consumer market research. Since they have ten times our volume we are not doing too bad. We spend almost half of what they spend on research. That, in turn, will keep us in the forefront.

We are an exceptionally profitable company and we will continue to grow dynamically as a result. We have a minimum target of 22 percent real growth. At the same time we have a certain target for return on investment and expansion. We are expanding dramatically in the U.S. We are expanding into Australia, New Zealand and the U.K. We accept the world as our marketplace.

When people see that, they feel the excitement, they see what is going on. When you walk into my business, we have one magical formula, one three letter word that makes all the difference in the world to everybody who is there. It is spelled F-U-N. As you walk to my office you see a big popcorn machine in the lobby. Everybody in my place gets free popcorn. Next to that popcorn machine is an expresso and cappuccino machine. Everybody gets free expresso and cappuccino, including anybody who visits the office. We have a big 1955 juke-box with the original 45's in our staff room. We are putting in a complete soda fountain for all of the employees.

All of our employees get to eat at Mother's Restaurants regularly. They get free samples all the time. Everybody participates in the food tasting programs, and on top of that, everybody who works for us, whether they are a clerk-typist, receptionist, or anybody, gets a minimum food allowance of $35 a month to eat at Mother's, as part of the fun process. If that does not create commitment, I do not know what does. That is a long answer to a very important question.



BIOGRAPHY

JERRY S. WHITE

Dr. White was born and raised in Toronto and attended the University of Toronto and two British Universities where he completed six degrees in business. He is a professional member or Fellow of eight societies and institutes. He is President and Chief Executive Officer of Mother's Restaurants Limited, Canada's Largest Pizza and Pasta Restaurant chain.

He has authoured over twenty books on Canadian business, finance and management including The Canadian Franchise Guide, Canadian Business Financing & Taxation and the Executive Guide to Canadian Management. Dr. White's background included careers in banking, economics, education and consulting. He was most recently Director of Strategic Planning Services, Laventhol & Horwath Management Consultants.

New Technology, New Clientele: Adaption and Education

LARRY MILLIGAN
Dean of Research
University of Guelph

Agri-business in Ontario is shaped by a number of factors which have changed recently. We are faced with oversupply, higher input costs, lower commodity prices, rising protectionism, greater third world debt and a frightening number of farm bankruptcies. It is changing life in Canada.

The future development of our agricultural industry is going to be influenced by three forces: competitiveness of Canadian agriculture on the world front; demographic changes which will influence products and markets; and agricultural technology adaptations.

Canada is highly dependent on world markets. Twenty seven percent of our gross domestic product is derived from international sales. This is greater than Germany, Japan and the U.S. as a percent of gross domestic product. In Canada, particularly in agriculture, we have to have our eye on the international market. About 50 percent of Canada's agricultural production is exported, which means that we suffer when the world markets are depressed although there are opportunities for us to improve our position. To remain competitive in an intensely competitive international market we have to make innovations and we have done that.

What factors are going to influence us in the near future? Certainly high interest rates have had an influence in the recent past. The value of the Canadian dollar is a concern. Increases in the value of our dollar will exacerbate our ability to compete in the world market. Domestic and foreign policies can have a tremendous influence on Canadian agriculture in the short term. Such things as trade deficits, interest rates, fluctuating currencies, protectionism, U.S. farm policies and budget deficits all influence the Canadian agricultural sector.

Two of our major and traditional markets for agricultural products are Japan and the U.S.S.R. Both are producing more of their own food and have more supply sources than in the past. We will need to provide competitive products to maintain these markets.

Demographic changes in the North America have influenced agriculture. There is no real growth in the food market. The population is tending to get older and consume less. There is an awareness that perhaps we have not eaten well, or at least not wisely, and we are changing eating habits. Our informed society is concerned about the nutritive and health values of the foods they purchase.

Immigration is influencing Canadian food markets. Larger ethnic populations provide opportunities for new and different products.

Government policies influence what we do. For example, in the area of food preservation, the acceptance of irradiation could reduce the use of chemicals in processing.

Recent diet trends include more fruits and vegetables, more cereal products, more chicken and fish, more low fat dairy products, more convenience foods with quality and nutrition emphasized, but less red meats, eggs and sugar.

I do not think we have given enough attention to the structural changes in farming during the past forty years, including those influenced by research and technological developments. I think of a 60 percent reduction in farms, a two thirds reduction in people living on farms, and 80 percent of the output being produced by 30 percent of the farmers. The concentration is even greater in some areas.

The average farm has about doubled in the last forty years. Neither increasing farm size nor the fivefold increase in the capital involved in farming in Canada from $24 to $130 billion dollars has been very much discussed. This capital intensiveness is making it very difficult for any new person to enter agriculture.

World food production has increased by about 25 percent. We did not predict this very well. Many of our traditional export customers are now in a position of increasingly being able to feed themselves.

Given Canadian agriculture's role as a price taker, not a price setter, it is vital that our agri-food sector be as efficient as possible. We need to concentrate on our input costs. We have to minimize the amounts of inputs in order to be viable and competitive internationally.

Technology has been adapted and adopted by Canadian agriculture in leaps and bounds in the past forty years. In the future we can look forward to increasingly rapid changes. The use of biotechnology to produce advances in agricultural production will increase. Biotechnology developments will increase productivity so that we can make a profit. If we do not adopt these developments our competitors will.

Biotechnology will influence the crops we produce and the ways in which we control the pests that infest those crops. I do not foresee the introduction of new crops in the immediate future, but I certainly do see the use of biotechnology to bring about better management practices. For example, we will introduce oilseed crops which are resistant to broadleaf herbicides, so that we can better control weeds, thus increasing yields and profits.

We will emphasize better soil conservation because we now have better means of determining what has been happening to our soils. Soil degradation is a slow process and it takes very sensitive systems to determine what is going on.

We have not neglected soil conservation in our agricultural research, but we are getting better methods to measure what is happening. Water quality will also occupy a very high prominence in agricultural research in the immediate future.

Undoubtedly, in the area of food itself, we will integrate agricultural production to a much greater extent with processing, because food processors have a phenomenal influence on what happens on the farm. Nutritional value and

food quality will play a greater role in agricultural research in the immediate future. We will have a proliferation of enhanced predictors and economic systems that can be used by farmers to help with management. I suspect that producers are already being flooded with early versions of these. These systems will become more sophisticated and a lot better very quickly.

We can expect greater automation of farm equipment. This does not necessarily mean bigger. We will get intelligent equipment. We are developing equipment which will conserve chemical usage by application only where needed. We will be able to apply fertilizer on a field according to the needs of plants, and apply pesticides at the location of the pest, rather than applying them to the entire field. Automation and precision in equipment will increase.

Technology will be transferred quickly in a number of ways. Videotape will become more important in the training and retraining of agriculturalists. Our greatest input into technology transfer will continue to be our graduates. These are the people who really do the job of technology transfer.

Ontario agricultural research has yielded a 40 percent return per year for agriculture. The point that I have not emphasized is the spectrum of research which is needed to provide agricultural products or improved agricultural technology. This ranges from basic areas of research through to applied areas of research and finally through to development. You could describe the spectrum of research as ranging from long term goals to shorter term goals.

All research is valuable. Increased knowledge is valuable, and it is valuable whether it is basic research or applied research. We need to have the spectrum and the continuum between the two. For example, in the area of intelligent equipment, a researcher in a computing science department would be considered to be doing very basic research if he told you he was working on artificial intelligence in computer systems. But when he says that this will be used in intelligent farm equipment, he all of a sudden is doing applied research. I do not know where one begins and the other ends. I do know that we need support through the spectrum from the relatively basic sciences, the relatively academic undertakings, through to the applied undertakings. In Canada, where our total research effort is less than 2 percent of the world effort, I would have to suggest that much of our presence, in what we often refer to as basic science, is to learn what is going on in the world, rather than an opportunity to solve our own problems.

Canada must take the responsibility of solving Canadian problems because nobody else is going to do it for us. That is where our imagination, innovation, and determination come into play. Applied research that has to take place in Canada has not taken place to the extent that it should. We rank tenth in the OECD system with regard to our national input of resources into research in Canada. Industry supported research is proportionately less than government financed research in Canada. We do not conduct enough research in Canada and certainly not enough applied research.

How can we change this? What do we do about changing our research system? Well, that is starting to happen. There are discussions on a national science policy for Canada. For the first time there is a science policy committee of parliament. Within Ontario, research activity is being increased, particularly to encourage work between universities and industry. The University of Guelph is in the forefront of this activity because we have had a history of working in applied areas. The days where our researchers could decide what is important is not really good enough any longer. That will not convince many people to put needed resources into research. Research which advances the national good and researchers who can recognize outcomes which have an application or can be developed is the direction we must follow. I might add that not all academic research needs to have specific goal outcomes.

Applied agricultural research has to be problem oriented, which means we must marshal our resources to solving the problems that are really constraining us. That is going to take a very great deal of courage in some instances and a lot of consultation. We are going to have to support the best researchers, that is, those people who are productive and who are innovative.

We have to minimize the bureaucracy. Planning research two years in advance is ridiculous. That is a contradiction in terms. For example, you would not be able to predict exactly what will be happening two years from now if your research is in an area where developments are occurring rapidly. In determining what research is needed we must have systems whereby our researchers and research organizations effectively consult with the people, the consumers if you like of research, the people who will be using the technology, the people who will be doing production.

We have a major system in Ontario which has effectively allocated research resources in a number of commodity areas. There are some adjustments that can be made. There are some other areas that can be included in a consultation system to make us better than we are now. This is terribly important.

For example, we recently held a workshop at the University of Guelph with representatives of a major part of the food industry in Ontario, in which we got very frank consultation and advice and instruction as to what we as researchers might spend our time on effectively and what they in the food industry could do. It was a good workshop.

While management in our research endeavours is important, leadership is more so since you are depending on original, innovative new thoughts of researchers. You do not manage ideas, but you do enunciate the problems that have to be attacked and provide the resources for the effective solutions of those problems.

During every year in the last decade, the support of the university system in Ontario, as a percent of the provincial government budget, has lagged. Until 1985, the support of the university system has been reduced as a proportion of the provincial budget. During that period, support, in real dollars on a per student basis at universities in Ontario, dropped 20 percent. During the same period, support in the health care system on a per patient basis increased 30 percent. You can say, well, this is an adjustment that had to occur in the university system. I do not argue with that. What I can tell you is that within the university system, with its financial pressures, these adjustments have all taken place in the research areas. Teaching has to continue and we are now teaching more students per instructor than ever before. A number of resources formerly available to faculty researchers

no longer exist. Secretarial support has been reduced. Researchers cannot make long distance phone calls to consult with other researchers unless they get money from outside the university.

I believe support for the Ontario university system is improving. I am not suggesting carte blanche support to the entire Ontario university system as it once had. I am suggesting an opportunity to compete for funds, because I think we have the people who can compete successfully.

Our universities cannot accept only the direct costs for conducting research. Like other organizations we have other costs such as financial services, personnel services and record keeping. We cannot afford to do research for only direct costs.

There has been an emphasis in Ontario and in Canada now, to involve industry with our universities and with our government in doing research on a three-part basis. I know we, at the University of Guelph and the other universities, are going to encounter anger in industry and among our own faculty, when we say that part of the cost of doing research is to support the infrastructure, and charge overhead. I think you in business know what we mean when we say we have to charge overhead.

I am encouraged by the recent budget announcement of the Government of Ontario on University funding. It looks as if there may be a turnaround in funding the infrastructure at universities. I hope a competitive system develops which provides for adequate overhead which will allow our researchers to spend their time in consultation with the industry and working on important problems, rather than worrying about how we are going to get a couple of dollars to make a telephone call to a colleague.

Q. How do you see the involvement of non-university and non-government sectors, in funding research and in setting priorities?

A. In the foods area, the university in its research work was being criticized from various quarters for not being terribly cognizant of industry problems. Our approach was to discuss our mutual concerns, needs and capabilities to see if there was an opportunity for improvement. From our standpoint the consultative process was extremely helpful and I see it as a precursor to the development of a number of advisory groups. The Ontario Agricultural College has an effective advisory group and we are getting advisory groups for other colleges. I foresee us having an advisory group for foods research for the entire campus. I think that is one avenue that we can pursue.

An additional avenue is the Ontario Agricultural Services Coordinating Committee (OASCC), which is established in Ontario for ascertaining commodity problems throughout the province. This includes input from the university, Agriculture Canada and other government researchers as well as industry personnel. I am not sure that we have enough industry and producer input in all of those OASCC committees. I suspect that we really need to review this situation, given the expectation of greater involvement of the public in support of research.

Q. The comment was made this morning that agricultural research leads to more agricultural surpluses. As a researcher, how would you respond to that? Is this becoming the public's perception?

A. I think some of the criticism that arose earlier today about past agricultural research simply being targetted to producing more, is legitimate. Presently, there is a much greater awareness of the need for producing more effectively, more efficiently with lower input costs, rather than just producing more. I can assure you that it is a prominent factor influencing agricultural research right now.

BIOGRAPHY

LARRY MILLIGAN

EDUCATION:

B.Sc. Chemistry, University of Alberta, 1961
M.Sc. Animal nutrition, University of Alberta, 1963
Ph.D. Nutrition, University of California, Davis, 1966

EMPLOYMENT:

1966-1985 Assistant, associate and professor of Animal Science, University of Alberta and Chairman, Department of Animal Science (1973-1977)
1985-present Professor of Animal and Poultry Science, and Dean of Research, University of Guelph

RESEARCH AREA:

Regulation of forage intake and digestibility by cattle and sheep
Efficiency of use of dietary energy by animals

Implications, Opportunities and Ministry Response

CLAYTON SWITZER
Deputy Minister
Ontario Ministry of Agriculture and Food

Our speakers have mentioned the dangers of trying to predict the future. I suppose it is easy to understand this if you look at the track record of some predictions. Only six or seven years ago, consumption of agricultural commodities was equal to world production. Trade in agricultural products was expanding rapidly. Food scarcity threatened to become the major public issue. Farm prosperity seemed assured.

In Canada, the most recent era of prosperity in the farm community began in 1973. In the two years from 1973 to 1975 the farm incomes realized in Canada grew from $1.9 billion to $3.6 billion, almost double. It reached an all time high of $4.4 billion in 1983. In the three years since then, the 1986 realized farm income is forecast to be $4.2 billion, or 15 percent lower than it was in 1981. That is in terms of 1981 dollars. It is obvious that farmers have experienced a drastic financial change.

Against this background there are a number of trends that will continue to affect food prospects. The strong growth in agricultural exports that we saw ten years ago is not expected to be repeated in the 1980's or early 1990's, although foreign sales are expected to grow over this period.

The Canadian agricultural story will likely be one of of high stock levels and excess capacity. There likely will be surpluses domestically, as well as serious debt problems and inadequate foreign exchange in several countries. These factors will keep Canadian farm income relatively low.

Resource availability will be a key issue, especially quality of water and the effects of soil erosion. Most production increases in the next decade will result from applying more technology, not from adding more crop land. Demographic and diet changes may continue to favour poultry over red meat. As a result, beef, veal, lamb and pork will have to fight for their market share. Even milk consumption is projected to decline in the future.

The years to come will also see changes in capital requirements and financial outlook of the industry. Farming has become extremely capital intensive. The agricultural industry is four times more capital intensive than mining. It is eight times more capital intensive than manufacturing and fifteen times more than construction or forestry. Obviously this makes farming extremely sensitive to changes in interest rates, inflation, credit and taxation policy.

The large amount of capital required to get into farming presents a major hurdle for new farmers. The Ontario Ministry of Agriculture and Food has responded to these situations with a range of financial support programs. One program is the beginning farmer program. As of last week, exactly 2,055 new farmers have been helped by our beginning farmer program. I think this is a significant number. It means that 2,055 times across the province someone has sat down, weighed all the factors and decided that there was a future in agriculture. We want to encourage that.

The Minister mentioned other programs such as the fruit and vegetable quality improvement program. If we are going to sell Ontario products, we have to sell *good* Ontario products. That is something that farmers and marketers of every kind constantly have to remind themselves, because we are competing with the rest of the world.

I would be remiss if I did not mention the marketing regulations in Ontario. These allow producers to take greater control of the marketing of their product if they so desire. Financial support programs are not the whole answer. Today's farming puts a growing demand on management skills. Management skills, finance and marketing are obviously going to become more critical to the success of future farming operations. There will be more need for business advisory and information services for farmers. This stems from the growing sophistication and specialization of our farm managers, the increasing size of commercial farming operations and the demands of outside investors and creditors.

The Minister outlined Ontario's position in world trade and the overwhelming influence of the U.S. and the E.C. No discussion of the shape of agriculture and food in the year 2000 can exclude the importance of international trade. Sixty five percent of Canada's agricultural output, grains, oilseeds and red meats, is in effect priced in foreign markets. To a great degree, our present performance and future prospects in the agriculture industry are dependent on these world economic conditions.

The world economic situation is characterized by low growth rates, high real interest rates, high unemployment, low rates of investment, large imbalances in foreign payments, burdens from debts and volatile exchange rates. World markets for many commodities are depressed and could remain so for the balance of this decade. You can add to this the rising tide of protectionism and governments tipping the price scales with ever increasing export subsidies.

The upcoming round of negotiations at the GATT has been mentioned. The issue of agricultural trade subsidies will be on the GATT agenda for the first time.

We have been working on a national agricultural strategy in this country. It is just about ready to be sent to the Premier for discussion at the First Ministers' Conference. One of the major difficulties in trying to develop a national agricultural strategy is the fact that each province has the right to develop policies and programs for the benefit of its own agricultural system.

A great deal of the progress in agriculture is the result of agricultural research and the application of new technology. Each dollar invested in agricultural research has been shown

to give you back forty. About 60 percent of the benefits that have been calculated to come from agricultural research goes back to the primary producer.

The goal of agricultural research used to be increased production, but in the last few years research is really aimed at making production more efficient, making it possible to have the same production with lower input costs. Making production more efficient is the kind of trend we are aiming towards. Our new agricultural research program will stress more funding of marketing oriented research.

Matching product development and supply with demand is a philosophy with which our Ministry is in tune. The future will see new uses for agricultural products or improved characteristics of current products. We can expect new products from our research program such as food preservatives, colorings, artificial sweeteners, flavours, tenderizers, vitamins, organic acids and gums. Genetic engineering could also provide a new source of enzymes, leading to new processes, new foods and food ingredients. These new things in the future must be matched with demand.

We must adopt and adapt. We are going to adopt new technologies and adapt some of the ones that we already have. We will keep pace with the changes in the industry and the environment in which we must compete.

The international nature of farming and the whole agri-system means greater dependence on exports and greater competition world wide. The changes in agricultural research and technology clearly offer the potential for the agri-food industry to become more cost efficient and cost competitive.

The companies that are involved in food processing and food service are also making their influence felt in other industries. Pepsi-Cola is into the food franchising business and Coca-Cola is making movies. McDonald's is reported to be the largest real estate company in the U.S.

Amid all these multinationals, there are still places for relatively small Canadian companies to carve niches for themselves. They will have to find products that are unique and they will have to do market research to find out where the opportunities are.

Some years ago there was an airline advertising slogan. It was "Getting there is half the fun." That is the best way for us to look at our vision of the future. One thing is sure. None of us are going down that road alone. Over the years in this province, I have seen a vibrant living partnership built up among the players in this industry. That partnership still exists. This cooperative relationship will be very important as we chart our road into the future.

Q. I noticed on your program, there did not seem to be anyone addressing the present financial situation of Ontario farmers and farmers in general. There was no speaker to outline the possibilities of support for Ontario farmers to get through this valley we are going through.

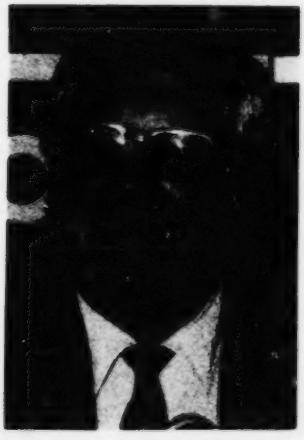
The vice presidents and general managers of all the biggest banks are telling us that they are monitoring one third of all farm loans in Ontario for trouble. They consider that 7-8 percent of farmers with farm loans will fail. As well, the Farm Credit Corporation had 3,400 Ontario farmers unable to keep their farm mortgages up to date, as of two months ago.

As a producer, I am very interested in hearing about possible Ministry programs to financially support Ontario farmers.

A. The program today was basically a long term look at the entire agri-food sector. This conference is one of the few opportunities this group has each year to look at long term trends and issues, and hear opinions of individuals and organizations that make up the agri-food sector.

To get to the long term you have to do something about the short term. There is no question that the Ministry has recognized the difficult farm financial situation.

We also recognize that it is impossible to fit all of the possible topics of interest into one day. We have set up formal and informal opportunities for you to provide that kind of input even if it was not on the program. You have taken the opportunity and I thank you for so doing.



BIOGRAPHY

CLAYTON M. SWITZER

Clay Switzer received a M.Sc. degree from the Ontario Agricultural College (OAC) in 1953. He was granted a Ph.D. degree from Iowa State University in 1955. He joined the Department of Botany, OAC, immediately after graduation. He became Chairman of the Department of Botany in 1967, Associate Dean of the OAC in 1971, and Dean on July 1, 1972. He completed his second five year term as Dean on June 30, 1983 and was appointed Deputy Minister, Ontario Ministry of Agriculture and Food on January 1, 1984.

He has been President of the International Turfgrass Society, President of the Ontario Institute of Agrologists, and President of the Agricultural Institute of Canada. In July of 1986, he was made a Fellow of the Agricultural Institute of Canada.

Responding to Change: Management Challenge for the Next Decade

CHARLES LEMMON
School of Business Administration
University of Western Ontario

I want to present some ideas which may change your world. My purpose is not to instruct, but to stimulate your thinking, so that you can do something about making your world better for yourself in the future. If I cause you to seriously consider your future, then I will have accomplished my mission.

We are engulfed in a world of changes arising from events that are unforeseen and are unfamiliar to us. The rest of the century is going to see many breaks from the past. In order to prevent ourselves from being broadsided by change, we are going to have to keep looking at the future to try and discover some clues to trends.

The future is a special world of imagination, conjecture and speculation. Our inability to speak about the future with precision is certainly no excuse for silence. Silence simply allows the future to assume a shape by inadvertence. It indicates a society which is basically out of control. This is something we want to prevent.

Let us take a look at some ideas about the future. There is a possibility of working at home and not at the office. However, I think we will still want to go back to the office because we want to be with people.

More wives will work and more husbands will moonlight to support their chosen lifestyle. In 1980, 45 percent of spouses were working. Sixty five percent will be working by the year 1990. It will be 75 percent by the year 2000.

It will become increasingly important that women learn a job skill because about 40 percent of people will be divorced. Women will need that security. The divorce rate averages about 42 percent in most areas of Canada now.

Service and information industries will dominate the U.S. and Canadian economy. Eighty nine percent of the people will be employed in information industries. Right now, McDonald's Restaurants employ more people than the entire U.S. steel industry. Sales by franchise businesses will grow from 36 percent in 1985 to 60 percent by the year 2000. The average shopping mall will contain very few independent businesses. Most will be franchised.

Computers will handle all procedural and repetitive jobs. Some restructuring of careers is going to be necessary. We are going to have to learn to handle more leisure time.

Industrial robots will do repetitive assembly line work and farm tasks. Robots do not get bored or sloppy and they do not argue with the foreman. As robots and computers do more work, displacing people in the process, society is going to have to come to grips with the matter of the wealth these machines create. In Sweden, employers pay the same taxes for robots that they pay for people. In Japan, some companies pay union dues for robots.

All industrial countries, including Japan and Germany, are beginning a phase of deindustrialization. By the year 2000, the third world will be manufacturing 30 percent of the world's goods. They have the work force and can produce for less. Why would you employ an automotive worker here for $19 an hour when you can do the same thing in Brazil on certain assembly operations for $2.50 an hour?

Retraining is going to become crucial. Fifty percent of what an engineer learns today will be obsolete in five years. In ten years, that figure leaps to about 90 percent. Among two wage earner families, which will be about 75 percent of all families by that time, at least one will be going back to school every four to five years.

There will be an increase in smaller families, smaller housing units, and more communal living activities. The number of non-family households are growing.

By 1996, nearly 3.6 million Canadians, 13.1 percent of the population, will be over sixty-five years of age. We are going to have to learn how to handle that. Four million will be between the fifty and sixty-four age group, because of the baby boom.

I might add that small recreational submarines will be used as commonly as snowmobiles are used today. In Connecticut, General Dynamics has designed a personal submarine which will sell for around $15-16,000, the price of a car. If you want a submarine that will go deeper, they will be available for $30-50,000. It is not a new idea. The Japanese had one man submarines in 1945. We are so interested in the deep and aquafarming and things like that, that probably personal submarines will become our next fad.

In the U.S., $7 out of every ten are now spent by women. Women are becoming more important in business these days. Two thirds of the new businesses that start up today are by women. Their success rate is about 47 percent. The male success rate is only 25 percent.

As more women work, more men are doing the grocery shopping. Forty percent of the supermarket shoppers are men. Men spend less time in the stores, use the stores less often, spend less money, pay less attention to specials and sales, and do less comparative shopping. Professional women shop the same way as men.

There is a home television information explosion going on because of the advances in cable systems, video recordings and computer applications. We will subscribe for special information such as consumer advisory services, grocery price lists and ordering, legal information, credit card transactions, banking and educational services. This is not in the future. A bank out of Columbus, Ohio, is doing it already. The Bank of Montreal has a system going in Montreal right now with 2,000 homes. All shopping is going to be done at the home. You just order it on the T.V. or by phone and it will come to you.

A computer programmed for your biorhythm data will prepare a daily schedule, activity plan and personal horo-

scope for your acceptance or modification. It may tell you in effect that you should sleep for 15 minutes longer that day, because your biorhythm tells the computer that you are really not ready to get up. It may tell you do not make any decisions that day because you would not be up to it.

Even your appliances will be controlled by computer.

We will also have space colonies. It will open vast new energy storage to us. I think space tourism will be the biggest growth industry in the twenty-first century. Undesirable people will have their own "earths" in space.

Biotechnical and genetic engineering is becoming extremely important. Splicing genes and injecting modified human growth hormones at cellular level to control growth, diseases and nutrient responses will become familiar processes. Parents will seek sperm and ova from men and women of genius so that their children can be exceptionally intelligent.

In terms of finance, there will be a cashless, chequeless economy where debits and credits are direct to computer accounts. Most branches of the bank will have no people in them. They will just be Automatic Teller Machines and perhaps a closed circuit T.V. system.

These are probably the most important products for the next decade: medical diagnostic kits; compact disks and compact disk pagers; lab top and mini portable personal computers; electronic pets; video cassettes; exotic and gourmet foods.

People will take mini vacations, three to four day weekend trips to resorts more often than taking a month off or a week off. Maid services will become much more important.

By the year 2000 only about 20 percent of farmers will own their own land and equipment. I think we will be into farm franchising, not unlike an automobile franchise or McDonald's franchise, where there is an agreement between two independent parties. The objective will be lower costs, more than supporting prices. Franchising will allow reduced capital intensity because the franchisor will own all the land and the equipment and have a central purchasing system.

We spend all our time supporting prices, but nobody is doing anything about costs. That concerns me. I bought and sold my cattle last year (fifty-six head or so) at the same price I did five years ago. The tractor I bought last year, was three times the price it was five years ago. We will have to get more control of the cost side of farming, in order to survive the competition that we will be facing.

Routine and semi-routine jobs will be done by mechanical robot machines. There will be crop spanning gantries that will do all those cultivation jobs. It will run on asphalt tracks to avoid compacting the growing area.

Domestic jobs will be done by mechanical robots.

The production of food and those who produce it are likely to take on a higher profile in the next twenty years. I almost believe that food is going to be used as a political weapon. The Arabs have "got" us on oil and I think we could "get" them on food if we want to. I am not sure it is the best move, but we could, because their population is increasing so much that they cannot possibly feed themselves.

The availability of food is extremely important. Most of us are probably solid, successful and civilized people. But just twelve meals stand between a person and savagery. One day without food and a person will lie. Two days without food and the person will steal. Three days without food and the person will riot. Four days without food and that person will kill. So food is unquestionably very important.

Biothermal energy will be the energy of the future. Bacteria have been developed to generate heat and electricity.

Fiber optics are going to be in common use. They are thin strands of glass that transmit laser light signals and are used to transmit voice, radio signals and computer data. They are faster and cleaner than conventional wires. Fibre can transmit in one second what would take copper wires twenty-one hours. Global links between the U.S. and Europe will handle 37,800 telephone calls simultaneously.

Cars have been built to last only three years. By the year 2000 they will be built to last twenty-two years. Up until now we have been building disposable cars without knowing it.

Except for the brain and spinal cord, we will have the ability to replace anything in the body by transplants or man-made artificial devices: teeth; blood vessels; nerves.

Our life expectancy will probably be around 100 years. It is about seventy-five right now. Medical researchers will have cracked the genetic code that determines how the human body ages, by the year 2000. A drug will be devised to slow the aging process.

Another aspect of the future which needs to be considered is government power. I do not think there is anything particularly wrong with what the government is doing. They are trying their best. But we are not contributing enough ideas when we ask them to do the same things all over again. That is not the answer.

What do I mean by power in government? They control a tremendous amount of spending power. The deficit of the federal government is measured in billions of dollars. What is a billion? One billion seconds ago we had not launched the first manned space flight. One billion minutes ago, Christ was still on earth. One billion hours ago we were living in caves. The government spent 1 billion dollars yesterday. That is important. We have to do something about helping the government. Our relationships are going to have to improve with them. Communications are going to have to be better.

Until the 1900's, our speed limit has been the speed of the fastest horse, which is thirty-five miles per hour. Then we got the internal combustion engine. From 1900 to 1945, we moved our speed limit to 450 miles per hour in the air, 210 miles per hour on land. Then we got the jet engine, which moved us up to 2,000 miles per hour. The last manned space flight was 22,600 miles per hour. This has been accomplished in eighty-six years, after living here for 10,000.

The technological change is something that worries me a great deal. In the year 1900, there were 12,000 scientists and engineers registered in this country. Last year, there were 2.25 million, all looking for different ways of doing things. Technology creates whole new worlds for us.

A different way of learning and coping is required. It does not mean learning a cluster of skills and values and rituals. It does not mean memorizing dates and names. Rote learning is out because rote jobs are out. Computers are there for that. In this ever changing world the mere recalling of previously

accumulated facts and restructuring them to fit new situations will result in inadequate solutions. No longer is it possible to solve today's problems with yesterday's solutions.

We cannot cling to the past. I am not saying ignore the past, but we cannot cling to it. A lot of businesses die because they cling to the past. The railroad business has died because they thought in term of past experience. When they first decided to ship automobiles, it took them 2½ weeks to figure out how to put four cars in a grain car. Nobody thought about unit trains or doing something like that.

The automobile business has gone the same way. The pre-eminence that the U.S. had in the automobile business is gone because they thought that people would buy whatever they produced. They asked what model the consumer would most likely buy. The Japanese went the other way, asking what people needed. Determine what people need and produce what they want: that is going to mean success. Toyota is the largest car producer in the world now. They just thought about it a different way.

What business are you really in? Are you in the beef business? In the turkey business? Are you in the tobacco business? Are you locked into those? Or are you in the food business, or even the entertainment business? How you define your business will affect the strategy that you should follow in order to be successful. You have to decide what business you want to, or ought to, be in.

This is the first generation in the life of man where experience of the parents is not enough. Experience can be a very bad teacher in many cases. It gives you the test and the lesson afterward. A cat will jump on a hot stove just once. The problem is, it will never jump on any stove again, hot or cold. So experience destroys creativity as well. I am not suggesting that experience should be ignored, but we cannot look through the rearview mirror anymore. We are going to have to look through the windshield for a change.

What skills should be developed? Problem solving involves several steps. Gather all the facts, old and new. Then generate and weigh alternatives. Come up with viable, creative solutions. Then make a decision and develop a detailed plan of action.

I am constantly talking about creativity. Creativity consists of looking at the same thing as everyone else and thinking something different. There is no right answer. There are a lot of answers. Some of them are good.

You also should develop an evaluative outlook. This represents the kinds of thinking you use in the practical phase when preparing ideas for execution. However, I recommend that you avoid bringing in your "judge" before your "artist" has a chance to do his job.

You must become a better coping person. You will have to deal with a faster changing world, with new technology and new learning, and more leisure time.

What are the steps that you can take to develop individual excellence? The needs of the future demand that we engage in an ongoing education process. In trying to cope with the problems and opportunities of the future a new kind of learning will emerge. Take the following steps on a continuing basis.

(1) Do an honest personal audit. Recognizing your strengths can help you build on them. Knowing your weaknesses can help you offset them. Then plan courses to improve where necessary. We should be very honest with ourselves in terms of that personal audit.

(2) Develop your problem solving ability. Take whatever courses you can find which will develop these skills. We structure our programs at the University of Western Ontario with a definite approach to problem solving. It is not intended to structure students' minds such that they will not be creative. It is intended to make them more creative. In effect, we use real life situations in the classroom, case studies of problems that managers actually had to face.

(3) Develop your computer literacy. Take courses in computers or better still, get one. The more you learn about the application of computers, the more you will benefit. Computer literacy will be absolutely essential in the future.

(4) Develop your communications skills. We spend 16 percent of our time reading, we spend 30 percent of our time speaking, we spend 45 percent of our time listening and we take no listening training. We spend all kinds of money on writing, reading and speaking and we do not spend any money on listening. There are many bad listening habits. I will mention three.

Do not allow emotion-laden words to take you out of tune with the speaker. If I say a word and you wonder why I said that word, you are not concerned anymore with the message. You may lose the message.

The message is far more important than the clothing in which it is garbed. If you wonder why the speaker wore a tie like that and has a funny looking suit on, the message could be lost. If someone came into this room and in broken profane English said the building is on fire, you and I would not sit back in our respective seats and criticize his grammar. No, we would get out. So do not let the appearance of the message trap you.

Do not waste the differential between speech speed and thought speed. You can think faster than I can talk. It is tempting to think about other things that are not part of my message. If you do, the message could easily be lost.

There are three ingredients in concentration:
Evaluate what I am saying. I have to build my theme by using building blocks. Determine what those building blocks are.
Anticipate what I am going to say next. You might be wrong in terms of the words but running something by your cortical centres twice is the best form of learning.
Recapitulate. Every five minutes or so summarize what I am saying. You will soon heat up your ability to concentrate.

(5) Widen your thinking scope. Take courses in and read the humanities: psychology, sociology and history. Sociology is easy to read these days, and very interesting. It is about people. There is a renaissance coming in the arts and the humanities to balance technology. The people who rise most rapidly in corporations from our MBA program are people who have good communication skills, not the engineers. Once you get beyond a certain level in the corporation, you are dealing with people, not technology.

(6) Apply the inquiry method of learning. Ask people why they do things the way they do, rather than how they do them. I went into a plant not long ago with the president of the company. I saw someone working on a machine and I asked what he was doing. He told me and I asked why he did it that way. He said he did not know. I asked if he ever thought of another way of doing it. He had, but it would take time and he

would probably waste product doing it. The president got interested then, and offered to pay the employee double time and give him the equipment to do it. About three months later I heard from the president. That idea is going to save the company about $116,000 this year and about $175,000 next year. The point is, I asked "why" and "what if". Those are more important questions than just "how".

(7) Look seriously at the way you use your time. Improve your time management. Document how you use your time for two weeks. Review it for excesses and alternatives. Make daily "to do" lists and prioritize them. We can no longer operate without planning.

(8) Understand stress in your business and everyday life, and take steps to cope with it. Take up some form of physical activity outside of your normal physical work. I happen to run four to six miles a day, but it does not have to be that. It could be anything: bicycling, swimming, etc., some sort of physical activity that relieves stress.

Stress: the first "S" stands for social support. Talk to somebody. Share when you are in a stressful situation. Sex is a great reliever of stress too. I do not particularly recommend it in the office.

"T" stands for time. Allow yourself some time. Take five or ten minutes during the day and do nothing but what you want to do. Take yourself completely away from what you are doing. Walk out in the park and watch the squirrels. Do anything that will relieve the tension in you.

"R" refers to relaxation and religion. Find relaxation of some form. Go for whatever relaxes you. Religion: when the Korean War was on, the communists put one cadre with every 12 prisoners to try to make them change their mind. Where there was strong religion, the communists did not even try to influence the prisoners because they were too strong.

"E" refers to exercise. Get involved in physical activity, whatever your thing is.

"S" stands for salads. Eat more salads.

"S" The final "S" is Scotch. Be kind to yourself.

(9) Be prepared to consider career retraining every ten years. Do not be afraid to change careers. Assess your abilities and be prepared to move to a new field even if it temporarily requires a drop in income. If you are not having fun in your business, get out of it.

(10) Planning is the essence. Plan your career, your recreation and family with at least a five year plan on paper.

It is easy to collect negatives in this world. Anybody will tell you how bad things are. The news media is full of bad things. Your mind can become a lethal litter basket of junk. We demean our accomplishments. There was a great depression, there were two world wars, there are 43 wars going on in the world today. We are still surviving, are we not? We are going to come out of it. Do not talk to me about the good old days. The good old days are now.

Look at this: "It is a gloomy moment in the history of our country. Not in the lifetime of most men has there been so much grave and deep apprehension. Never has the future seemed so incalculable as at this time. The domestic situation is in chaos. Our dollar is weak throughout the world. Prices are so high as to be utterly impossible. A political cauldron seethes and bubbles with uncertainty. Russia hangs, as usual, like a cloud, dark and silent upon the horizon: it is a solemn moment. ... of our troubles, no man can see the end."

That quote appeared in Harpers Weekly in October, 1857.

There are three kinds of people in this world: those who make things happen; those who watch things happen; and those who are not even aware that things are happening. Which describes you?

"Build a better world" said God, and I said "How? The world is such a vast place and I am so little anyhow and it is complicated. There is nothing I can do." God in all his wisdom said "Build a better you."

When the high court of history sits in judgement on each one of us as to how well we have fulfilled our responsibilities, what will be the verdict for you? Did you look to your future? Did you do something about building a better you?

BIOGRAPHY

J. CHARLES LEMMON

J. Charles Lemmon is with the School of Business Administration, University of Western Ontario, London, where he teaches Business Organization to graduating engineers. His main areas of interest are Small Business, New Enterprise Development and Human Relations. In addition, he teaches at the Management School of the Bank of Nova Scotia.

His degrees are from Queen's and Western. He spent a number of years in industry as a Marketing Director and General Manager of Divisions of two large multinational corporations. He has been with an investment house, involved in several public stock issues and small company financings. His consulting work has been in the area of management development and general business. Mr. Lemmon lives on a farm just above Granton, Ontario where he has beef cattle.

Agri-Food Outlook and Policy Review

Prepared by the Economics & Policy Coordination Branch, Ontario Ministry of Agriculture and Food

I. GENERAL ECONOMY

Declining oil prices and fluctuating exchange rates have dominated the international economy since the beginning of the year. The overall economic benefit of the decline in oil prices continues to exceed the negative consequences for most industrial and many developing countries. Consequently, global economic prospects have improved. Oil import bills are down, inflation rates are falling and interest rates have decreased. At the same time, declining oil prices have aggravated the international debt situation for oil exporting countries and raised concerns about the increased risk placed on North American banks.

UNITED STATES

The U.S. economy is reported to remain stable over the next year and a half. The outlook is for a modest improvement during the remainder of this year, followed by continued relatively slow growth in 1987. Some of the recent economic indicators that are seemingly favourable should be interpreted with caution: 1) the decline in unemployment tends to lag rather than lead economic activity; 2) the recent rise in consumer spending is due mainly to automobile sales in August. These sales simply represent reduction in inventories and appear unrelated to increase in production. There is no evidence for a sustained growth of consumer spending.

Inflation should be moderate in the U.S., despite recent increases in commodity prices and a declining value of the dollar. It may rise to between 4 and 4.5 percent during the next several years, according to Chase Econometrics. Wage increases will remain low, because of the amount of excess production capacity in most industries; and the enormous world grain supplies will prevent any significant increases in food prices.

Interest rates, on a long-term basis, will likely remain steady. Recent increases in long-term rates will not set off a new upward spiral, mainly because the modest economic growth is unlikely to trigger any significant increase in the demand for credit. The poor trade deficit outlook suggests a need during the next few years for further declines in the dollar as well as considerable increases in import prices.

EUROPE

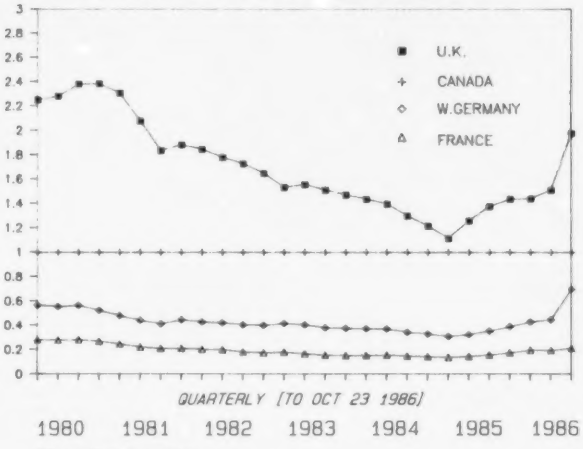
Economic growth this year in the major European countries (France, Italy, U.K. and West Germany) will be in the 2.5 to 4.0 percent range and is expected to moderate somewhat in 1987 (2.5% to 3.0% range).

Unemployment continues to be a problem in many countries. The U.K. has an unemployment rate of 13 percent and West Germany has an 8 percent rate. France will be implementing policies to stimulate employment opportunities. Other countries will also be paying special attention to their unemployment problems.

Lower oil prices have had a positive impact on most European economies and have resulted in lower inflation rates in several countries, especially France, Italy, and West Germany.

The United Kingdom has suffered more than other countries as a result of lower oil prices because it is a net petroleum exporter. The Italian government has decided to transfer some of the gains of lower oil prices to itself by increased taxes on fuel to achieve its deficit reduction target for 1986 (14.6% of GDP). Other countries have not followed suit. The fall in the value of the American dollar compared to most European currencies has also been beneficial to European countries as inflation should stay within the 4 to 6 percent range.

Selected European Currency Values, 1980-1986



Chase Econometrics

PACIFIC RIM COUNTRIES

This region is characterized by promising economic growth, industrious workers, and potentially vast markets. Countries in this region are in various stages of economic development: the developed countries of Japan, Australia, and New Zealand; the middle developed country of Singapore; the newly industrializing countries or districts of Hong Kong, Taiwan, Korea, and Malaysia; and less developed countries of the Philippines, Indonesia, China, and Thailand.

Individual countries will vary from the scenario above. For example, Australia and New Zealand do not have promising outlooks when compared with other Pacific Rim countries. Australia has suffered from troubled markets for natural resources — wheat, sugar, oil, coal, and base metals. Inflation has become a problem and the immediate outlook is

grim. New Zealand in turn is still experiencing a 10 percent inflation rate. Indonesia, the Philippines and Malaysia also have mixed to poor prospects. Political instability and uncertainty still affect the Philippines and economic growth in Indonesia has slipped from 6.6 to 1.0 percent, largely due to the collapse of world oil prices. Malaysia's growth may turn negative and interest rates remain high.

The other Pacific Rim countries of Japan, Hong Kong, Taiwan, South Korea, China and Thailand generally exhibit booming economies. Taiwan has a $10 to $12 billion trade surplus with the United States; South Korea is booming because of the automobile industry; and China's economic growth should lead the region at 7 percent.

DEVELOPING COUNTRIES AND INTERNATIONAL DEBT SITUATION

The difficulties faced by developing countries remain severe. Economic growth during the first four years of this decade amounted to no more than 2 percent a year. The external liabilities of these countries amounted to $814.3 billion in 1985. The principal reason why the debts of developing countries are considered a problem is not only the countries' inability to repay the debt, but their inability to pay the interest portion of the loan.

Output growth in the developing world accelerated to an estimated 3.75 percent in 1984 compared with 1.5 percent in the previous two years. For the non-fuel exporting countries, economic growth was even higher. This increased economic growth helped these developing countries improve their external trade deficit position. The combined trade deficit of indebted developing countries, which had been $113 billion as recently as 1981, fell to $38 billion in 1984 and is expected to remain at this level through 1987. A trade deficit of this size is equivalent to about 7 percent of exports of goods and services, the lowest level since 1967.

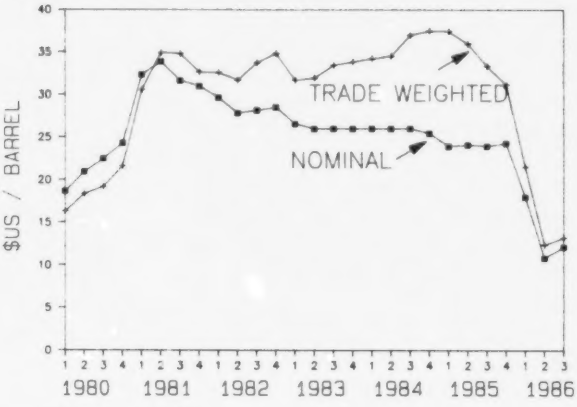
Prospects for 1986 include a consolidation of economic growth around 4.5 percent and the stabilization of the external deficit at its present level. The ratio of external debt to exports should show a further sizeable decline. The latest International Monetary Fund Report suggests that while some individual countries need to undertake further adjustment to achieve a sustainable external position, the aggregate deficit of developing countries can be financed under present conditions. Despite the improvement to date, several hundred billion dollars of international debt will remain doubtful for many years. Recent World Bank report places the responsibility of this doubtful situation on the shoulders of the developed countries which maintain protective domestic policies that frustrate the economic development of third world countries.

CANADIAN ECONOMY

The major forces which are influencing the Canadian economy are low resource prices (oil, metals, grains), higher taxes, strong regional recovery (Central Canada), threats to exports (U.S. countervail on hogs, lumber) and a continuing economic growth for most of Canada's trading partners.

Lower oil prices earlier this year and higher taxes of the last two federal budgets have been negative for the oil extraction industry. In fact, according to a recent survey by the Canadian Petroleum Association, investment spending by the oil and gas industry (Alberta, Saskatchewan, east coast and far north) will show large declines over the next two years. The decline in oil prices started in the last quarter of 1985 and continued through the first half of 1986. Since oil is priced in U.S. dollars, the change in the oil price is shown below in two ways. The price to the U.S. is shown in nominal (U.S.) dollars. A more relevant price of oil for the major U.S. trading partners, other than Canada is the trade weighted price, because it reflects the changes in the value of the U.S. dollar vis a vis their currencies. Since the Canadian dollar has changed little in value compared to the U.S. dollar, the nominal value is most relevant for Canada.

Crude Oil Price, 1980:I to 1986:III



Chase Econometrics

The lower oil prices and strong export demand for consumer goods have also led to growth in employment, in residential construction and in consumer spending in various other parts of Canada. The national unemployment rate has stayed below 10 percent and is expected to be at 9.3 percent next fall. Newfoundland's rate is 20.6 percent, B.C. has 12.3 percent of its work force unemployed. Ontario has only 7.1 percent unemployment.

A temporary weakening of the U.S. economy this summer saw exports decline. However, a greater cause of concern is the protectionist actions of the U.S. Congress. Although the U.S. and Canada are in the midst of bilateral trade discussions, countervail actions have raised more duties in 1985 and 1986 than in the five previous years.

The outlook for the Canadian economy is cautiously optimistic. Growth of the Gross Domestic Product is expected to be near 3 percent in 1986 and 1987. Government expenditures will continue to be constrained, except in sectors which need large cash injections to stay afloat (i.e. grain producers). Projections for interest rates and unemployment are shown below.

Major Economic Indicators, 1986:IV to 1987:III

Indicator	Quarter			
	86:IV	87:I	87:II	87:III
	– percent –			
Prime Interest Rate (AERIC)	9.4	9.5	9.6	9.9
CPI, Inflation (AERIC)	4.0	3.8	4.1	4.2
Canadian Unemployment (AERIC) .	9.6	9.5	9.3	9.3
Ontario Unemployment (AERIC)...	6.9	6.7	6.6	6.5

SOURCE: *AERIC Applied Economic Research and Information Centre, the Conference Board of Canada, October 4, 1986, except Ontario unemployment, which was updated October 10, 1986.*

ONTARIO

Ontario's economic performance has been very strong since 1983. In 1986, the province's economy will again progress at a rapid pace (4.2%) because of strong growth in capital spending and consumer spending. Residential construction will post new highs this year with housing starts increasing almost 13 percent. Capital expenditures on plant and equipment will reach double-digit growth rates. Real personal disposable income gains and further decreases in the personal savings rate will lead to strong growth in household spending on goods and services in the province. The current savings rate is over 15 percent of the personal disposable income.

Ontario exports, especially in manufactured products, will increase at a slower rate in 1986-87 as the effects of slower economic growth in the U.S. are felt domestically. This decrease in export growth will be the province's main weakness next year and will affect other sectors of the economy as well. However, recent changes in the currency values of Canada's other trading partners (Japan, EC countries) have made Ontario more competitive with these countries.

The impact of lower oil and gas revenues will affect Ontario through reduced demand for consumer goods, and for machinery and equipment from the Atlantic provinces and Western Canada. Nevertheless, Ontario's economic growth will expand at a rate higher than the national average over the next two years. Ontario's population growth will also be higher than Canada's average, because many workers, laid off in other provinces, are moving to Ontario to help fill new jobs, which are created at the rate of 250,000-300,000 per year.

II. AGRICULTURAL ECONOMY

The current situation of oversupply and low prices in world agriculture has been brought about by a number of developments. The United States has been at the centre of this situation largely because it is the dominant exporter of agricultural products and the largest producer of export commodities.

The world recession in the early 1980's has limited the ability of traditionally importing countries to expand their imports. At the same time, international banks have not been willing to extend credit and high interest rates have made past borrowings a large financial burden to countries and individuals. Petroleum prices have collapsed. For oil exporters, the downside effects on loss of purchasing power in international trade have been greater than economic advantage gained by lower petroleum prices.

The appreciation of the U.S. dollar during the early 80's had slowed purchases of exported products. Increased world production of many commodities has resulted in global oversupplies and correspondingly low prices. This has meant high and continued subsidies, especially in the U.S. and the EC. This situation has led to extreme frustration in many countries and the adoption of protectionist measures to counteract these activities.

U.S. AGRICULTURAL POLICY

The United States and much of the world has been struggling under the burden of the U.S. Farm Bill, officially known as the Food Security Act of 1985. This bill was passed in late December 1985 and has set the tone of world agriculture for 1986 and 1987. Beyond that time, even though the bill extends until 1990, grave uncertainties arise.

The agricultural policy in the U.S. is in a state of turmoil. The Farm Bill has: significantly lowered world prices, especially for wheat and feedgrains; generated increased tension between the U.S. and other grain exporting nations; continued to bleed the Treasury of the United States through costly deficiency payments; and failed to rebuild the shrinking U.S. export market that had peaked in 1981.

There have been rumours about major revisions to the Farm Bill in 1987. A new bill is unlikely. Growers, however, can expect continued minor adjustments and enhancements to the legislation. For example, changes to the 1987 feedgrain program are detailed in the coarse grains section of this paper.

The export program has not been successful in stimulating exports. The offer this fall to sell additional grain to the USSR was met with indifference. In turn Canada was able to sign a long-term deal with the Russians.

Policy options for the U.S. are complex. Several ideas have been proposed. One is to cut government costs by sharply limiting production. Another is to do nothing and let present legislation work. A third is to increase spending in order to hasten changes in the basic strategies of U.S. competitors. The complexity of domestic policy has been made even more difficult by the opening of the new round of GATT negotiations. This development, coupled with the Canada-U.S. trade talks and the "subsidy war" with the EC means that policy will be decided in three centers — Washington, Geneva and Brussels. Clearly, decisions in these locations will need to correspond with one another.

THE EUROPEAN ECONOMIC COMMUNITY

Once again the EC is immersed in a budgetary crisis over farm spending. The EC Commission has informed member countries that farm spending threatens to exhaust the EC budget. This is occurring even though measures were taken at the Fontainebleau summit in 1984 to increase the funds available to cover EC budgetary expenditures.

High guaranteed prices have been maintained in the face of increased world commodity supplies, lower world prices, the depreciation of the U.S. dollar against EC currencies, and lower production costs caused by the fall in energy prices.

The depreciation of the U.S. dollar by more than a third this year has increased the cost of EC farm spending by $5.5 billion. This represents nearly 20 percent of the initial farm budget allocation of $30 billion for 1986-87.

Financing the storage of EC surplus stocks of butter, beef and grains is an increasingly heavy burden. For example, EC butter stocks have risen to record levels of 1.5 million tonnes (Canada's annual production is around 100000 tonnes) and beef stocks stand at 800000 tonnes (Canada's annual production is around 900000 tonnes).

The EC farm Ministers remain divided over how to halt the Community's spiraling agricultural spending. The EC Commission has stressed the serious nature of the problem and has made many policy proposals. However, the farm Ministers have not been prepared to take steps that would harm the powerful agricultural lobby groups. In the past, the EC member states have managed to delay the difficult decision but as the years pass, the room to maneuver is diminishing.

CANADIAN AGRICULTURAL POLICY

Government Programs

Continued financial problems in agriculture over the last few years, and the likelihood of continued excess commodity supplies, low prices and reduced incomes over the next few years have resulted in the federal and provincial governments' decision to introduce a number of financial support measures to assist farmers. These programs are designed to help them deal with the short-term financial problems that currently exist, and to provide incentives to adjust to the changing environment in agriculture and the economy.

In the federal budget of February 26, 1986, three initiatives were introduced under "Farm Financial Assistance Policy": 1) A $700 million Farm Credit Corporation (FCC) loan program of commodity based mortgages for existing FCC clients in financial difficulty; 2) Farm Debt Review Boards; and 3) A program to ease the transition for those farmers forced to leave agriculture. These measures will provide an additional federal commitment to Canadian agriculture of $65 million in 1986 and $130 million in 1987.

The Debt Review Boards are designed to help farmers facing insolvency, who have the potential to be viable, to negotiate a means of remaining in business. The federal government intends to establish a debt review board in each province. Ontario's was established in August.

In late August 1986, the Agriculture Ministers held their annual meeting in Victoria, B.C. At that meeting, discussions centred on the National Agricultural Strategy, deficiency payments and farm financing.

On September 10, 1986, the federal government introduced the Canadian Rural Transition Program (CRTP) and allocated $46.6 million to this program. The program is designed to ease the transition for those farm families who have to leave farming because of financial difficulties. The program will be run through the federal department of Employment and Immigration and will provide eligible farm families with financial assistance, job counselling and training. This program is modelled on Ontario's Farmers in Transition (FIT) Program.

On October 3, 1986, the Prime Minister announced that Canadian grain farmers would receive $1 billion in financial assistance to help them deal in the short-term with the low world prices for grains which have been determined largely by U.S. agricultural policy. Details regarding the equitable distribution to all grain and oilseed producers in Canada are still being refined.

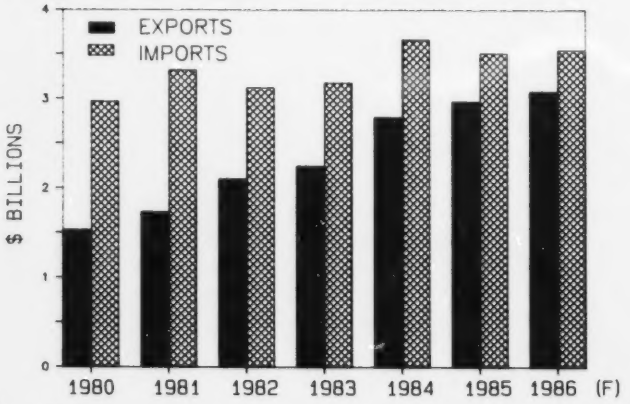
Trade

During the past few years, agricultural trade problems have become more serious and have attracted a great deal of international attention. Government subsidies, combined with increased production and reduced import demand, have caused world prices of many commodities, particularly grain, to fall sharply. The U.S., Canada, and other agricultural exporting countries have become extremely frustrated by the continuing use of export subsidies by the EC. In an attempt to reverse the decline in its agricultural exports and regain market share lost to the EC, the U.S. has turned to export subsidies.

Canada's agriculture and food sector has been adversely affected by depressed world prices, subsidized exports, and protectionism. The value of Canadian grain and oilseed exports has declined substantially during the last two years. Furthermore, the protectionist mood in the U.S. continues to threaten Canadian exports. U.S. producer groups remain concerned about imports of Canadian pork, cattle, beef, sugar, vegetables, cut flowers and other commodities. This is of significant importance since a quarter of Canada's agricultural exports, and two-thirds of Ontario's, are shipped to the U.S. Canada, along with other "fair trading" nations, has grown extremely concerned about the deterioration of world agricultural markets and has called for changes in the EC's Common Agricultural Policy and the U.S. Farm Bill of 1985.

On the import front, Canadian producers have countered the subsidized beef imports from the EC by requesting and obtaining countervailing duties. In the summer permanent countervailing duties were imposed on EC beef imports. This fall, provisional countervailing duties were imposed on EC pasta. Similarly, the Ontario Corn Producers Association has requested the imposition of countervailing duties on U.S. corn imports which benefit from subsidies under the U.S. Farm Bill. (On November 7, a duty of $US 1.047/bu. was imposed.)

Canada-U.S. Agricultural Trade, 1980-1986



Statistics Canada

Canada's agricultural exports to the U.S. were worth over $3 billion in 1985 and have been growing steadily since 1980. Ontario accounted for half of this value. In both cases, the gap between imports and exports has narrowed, mainly because of increased Canadian and Ontario exports. Ontario's overall agriculture and food trade has also been growing, although imports have continued to exceed exports.

Ontario-U.S. Agricultural Trade, 1980-1986

Statistics Canada

Agreement to start a new round of Multilateral Trade Negotiations (MTN's) under the General Agreement on Tariffs and Trade (GATT) has been hailed as an important breakthrough. For the first time, an attempt will be made to bring agricultural trade under effective GATT rules and disciplines, and to find a solution to the global problem of agricultural subsidies. Preparations for the official launch of the new round of MTN's in Geneva in early 1987 are well underway.

The Ontario government has welcomed the agreement to hold a new round of MTN's. The efforts of the Government of Canada to seek an end to the subsidy "wars" in agricultural products are fully supported. However, the support for bringing agricultural trade under effective GATT rules and disciplines should not be taken as support for the dismantling of all domestic agricultural policies, in particular the orderly marketing system. The Ontario government has already clearly expressed these views to the Government of Canada in regard to the bilateral trade negotiations.

The Canada-U.S. trade negotiations have been underway since May. Exploratory talks have been completed. The next phase involves a more detailed examination of specific issues such as agricultural subsidies and health standards. After this phase is completed, the negotiations will begin and will last until the summer of 1987. The Government of Canada and the U.S. Administration remain confident that a mutually beneficial agreement covering agriculture, food and beverages can be reached. The Ontario government is participating in the process, but remains concerned that the costs of a trade agreement with the U.S. may outweigh the benefits.

ONTARIO AGRICULTURAL POLICY

Major policy and program thrusts have been initiated in the Ontario agri-food sector during the past and current fiscal years. The provincial government has increased the budget of its Ministry of Agriculture and Food to $457 million for 1986-87 (Oct '86), a level which is 39 percent higher than in 1984-85. This increased assistance has been directed mainly into three areas: financial assistance, income stabilization, and increasing competitiveness of production and processing.

To producers in financial difficulties, the May 13, 1986 provincial budget contained measures to expand the Beginning Farmer Assistance Program (BFAP), enrich and revise the Farm Operating Credit Assistance Program (FOCAP), and extend and enhance the Ontario Family Farm Interest Rate Reduction Program (OFFIRR). All these measures have been put into place. At the time of publication, a new farm assistance program called "OFFIRR Plus" was introduced, which will raise the 1986-87 expenditures.

The province's Farmers in Transition (FIT) Program was designed to advise farm operators how to improve their management skills, while those who have to leave farming will be aided in the transition to another vocation. This program is now being integrated with the federal program noted previously.

The second area is income stabilization. Tripartite stabilization was formally implemented this year. A payment to slaughter cattle producers was made in the second quarter. At the same time, the province announced new programs under its own income stabilization plan for fresh market potatoes, winter and spring canola and oats. Producers enrolled in these programs receive a price support level of 95 percent of the previous five year average price, adjusted for changes in cash costs.

To assist cash grain farmers, the Ontario government has made interim payments in September to those enrolled in the provincial corn and soybean income stabilization programs. Payments were for marketings of the 1985 crops, at the rate of $9/tonne for soybeans and $3.50/tonne for corn. Interim payments of $9/t for soybeans and $5/t for corn were also made under the federal Agricultural Stabilization Act for sales up to March 31, 1986.

Increasing the competitiveness of Ontario agriculture is enhanced this year through several new initiatives and additional grants to research. A five-year, $54 million assistance package is designed to improve the efficiency, productivity and profitability of the Ontario pork industry. Grants to producers for facility upgrading and herd improvement, coupled with record keeping, are major components of the Ontario Pork Industry Improvement Plan (OPIIP). Some $10 million of the $54 million is designed to identify the domestic demand for pork products, explore new export opportunities and provide grants for upgrading and modernizing plant facilities. This Marketing Assistance Program for Pork (MAPP) is designed mainly for the pork slaughtering, packing and processing industry. Other programs, such as the Ontario Small Food Processors Assistance Program (OSFPAP, $6 million, 5 years) are designed to enhance the efficiency of the provincial agri-food complex.

In February, 1986 a new Foodland Preservation policy was released. Public comments on this policy statement have been received, which will be taken into account in setting out the new guidelines. The government is also considering Right to Farm legislation. It has recently introduced several

initiatives benefiting the agriculture and food sector in Northern Ontario. The Crop Insurance program is slated for a major review in the winter of 1986-87.

The Ministry is also actively involved in developing a National Agricultural Strategy, which will result in a national strategic plan to tackle both medium and long-term challenges in farm income stability, resource protection, technology development and transfer, international trade and competitiveness.

III. AGRICULTURE AND FOOD OVERVIEW OF ONTARIO

PROCESSING, DISTRIBUTION AND RETAILING

The processing, distribution and retailing (PDR) sector in 1986 was again glamorized by a series of mergers, while a number of divestments also occurred. This mix of industry activity reinforced the view that flexible strategies and business plans are required to successfully meet the challenges arising from the restructuring of this food sector.

The estimated $90 billion Canadian PDR sector has had to meet the challenges brought on by major economic changes, — the alterations in work force patterns, — shifts in age and family composition of the domestic population, -continued movement to the suburbs, — and above all very significant changes in the preferences of Canadian and North American consumers. The continual, if slowing, shift in food retailing outlets is but one reflection of the adaptation by this sector to meet new consumer demands for out-of-home purchases.

Competitive Strategies

The Canadian and Ontario food and beverage markets are fragmenting under the combined impacts of various social, economic and demographic forces. Many private sector firms are accepting the reality of not just market niches, but series of market niches within each product area, region, or even individual consumers. Equally as important, the continued advances in information technology are allowing firms to react faster to very quick but detailed analyses of market performances.

There is no longer one consistent, all-encompassing strategy that will always be profitable, except good management. The introduction and expansion of superstores into Ontario, such as Titan, Knob Hill Farms and Super Centre must be viewed in the same competitive environment as the continued growth in convenience stores, gourmet stores and alterations in fast-food and restaurant outlets.

This competitive pressure within a fragmenting marketplace has led to some overcapacity in segments of the industry, regions of the province or country. (The shakeout in segments of the food processing industry is paralleled by similar occurrences in the food retailing and food service industries.) This has led in turn to less than profitable operations as firms are unable or unwilling to adapt to these changes. The overall health of the industry, as in 1985, remains strong. But the composition of the PDR sector varies over time as some firms are more successful in adapting to the ever-changing markets.

The swift acceptance and growth of wine coolers is a clear example of a new product that meets a number of consumer needs — low alcohol, lifestyle, convenience. The success of wine coolers throughout North America has changed the domestic alcoholic beverage industry and offered growth to an industry facing substantive competition from imports and non-alcoholic beverages.

These new competitive strategies have also shifted Canadian and American merger/divestment decisions. During 1986, a number of North American firms realigned themselves by shedding units — RJR selling its KFC and Canada Dry segments, Carling-O'Keefe selling its wine subsidiary — or splitting operations such as the Dart and Kraft split, or refocusing company efforts on certain industry lines only, such as Ralston Purina's decision to focus on pet foods, IC Industries' purchase of Primo Foods and other quality food manufacturers, or the impending merger of Rothman's and Benson and Hedges. It is evident that all food and beverage firms throughout North America are continually adapting to an ever-changing marketplace and policy environment.

Policy Challenges and Structural Implications

As would be expected, Canadian and Ontario PDR firms viewed the initiation of the bilateral trade negotiations as the new national issue. Discussions on the direction, and scope, of the bilateral trade negotiations encouraged these firms to examine their own competitiveness in the global and North American markets. The discussions also spurred all segments to review their perceptions of the Canadian food market, its future, and their relations to suppliers, competitors, and customers.

The income problems facing Canadian farmers, and the efforts of the federal and provincial governments to assist producers, grasped the public's attention. This focus on the challenges facing the primary producers neglected the numerous changes, and new or expanded opportunities in the Canadian processing, distribution and retailing sector. Indeed, as has been remarked on numerous times in the past, this "mature" industry has shown a remarkable ability to rejuvenate itself to meet changing market conditions.

The proposed trade initiative as well as the discussions on changes to the national sugar/sweetener policies, and the two-price wheat system, brought out the complexity of the industry, and the divergence of views between food producers and food processors or retailers. This divergence of views in light of strengthening global competition is unfortunate. The success of the entire provincial agriculture and food industry in domestic and global markets, depends upon increased cooperation and compatibility of interests — not less. The anticipated developments with the bilateral and multilateral trade negotiations provide an opportunity to jointly review the future of this industry, and its preferred direction. Given the technological, information, economic and social changes occurring in this entire industry, the interests and competitiveness of the domestic PDR sector must be linked to the same concerns of the primary producers.

The trade negotiations will add further pressures on this changing sector, and additional uncertainty. However, the underlying competitiveness of the PDR industry, and its commitment to the future should allow it to steer a sustained profitable course into the next century.

FARM INCOME

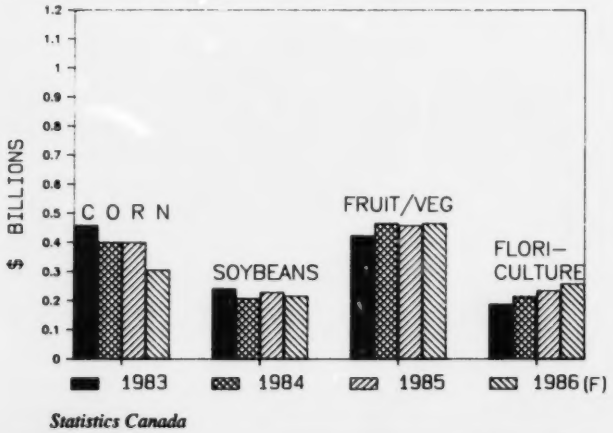
Farm Price Outlook for Major Commodities, 1986-87

Commodity	86:IV	87:I	87:II	87:III
		Quarter		
A1,2 steers ($/cwt.)	85-90	86-91	82-87	83-88
Index 100 hogs ($/cwt.)	84-88	81-84	77-81	75-79
Index 100 hogs ($/100 kg)	185-194	178-185	170-178	165-174
Chicken ($/kg)	1.06	1.06	1.07	1.09
Turkey ($/kg)	1.43	1.40	1.40	1.41
Eggs ($/doz)	.95	.94	.95	.96
		– $/tonne –		
Grain Corn (Chatham)	80-90	85-95	80-90	75-95
Barley	80-85	80-85	75-85	75-85
Soybeans	220-230	225-235	210-220	200-220
		– $/hectolitre –		
Fluid milk price	52.51	52.51	52.51	52.51
Industrial milk target support price	46.48	46.48	46.48	46.48-47.50

SOURCE: *Economics and Policy Coordination Branch, October 30, 1986.*

In June, 1986, total farm cash receipts in Ontario were projected to be $5.42 billion this year, up 4.7 percent from 1985. Ontario's share of the national total remains the highest of any province at about 27 percent. (Cash receipts do not include the value of inter-farm transfers.) Cash receipts from crops in Ontario are forecast at $1.97 billion in 1986, an increase of 9.5 percent compared to last year, but only 2.6 percent higher than in 1984. Inclement weather this summer and fall has played an important role in determining how close crop receipts come to the June forecast. No major change is expected in total cash receipts for fruit crops in 1986. Peaches had been expected to produce a bumper crop this year, but production was reduced to average due to a hail storm in early August. Production of apples and cherries in 1986 was lower than in 1985 as a result of spring frost damage. Excessive rain hindered efforts to harvest later vegetables, reduced the quality and quantity of some crops, and provided uncertainty regarding storage quality. Vegetable crops most adversely affected by showers were potatoes, cabbage, onions, carrots, cauliflower and rutabagas.

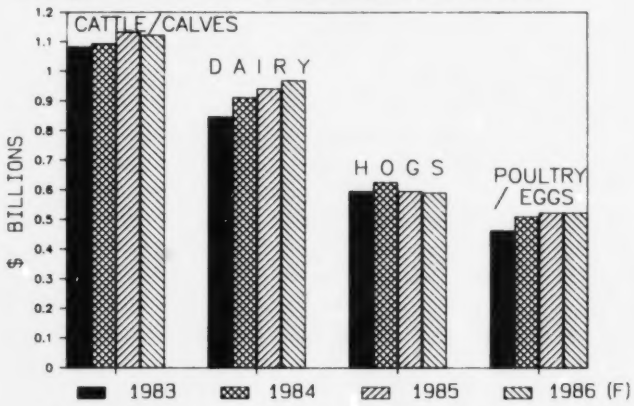
Selected Crop Receipts, Ontario, 1983-1986



Statistics Canada

Cash receipts from the sale of livestock and livestock products in Ontario are forecast at $3.27 billion for 1986, virtually unchanged from last year. Small increases in total returns for dairy products and poultry are expected. Although it had been expected that the cattle and hog sectors might experience slight decreases due to reduced marketings, recent price increases will offset this effect.

Receipts for Selected Livestock, Ontario, 1983-1986



Statistics Canada

Ontario farm operating expenses and depreciation charges for 1986 are forecast to be $4.15 billion, down 1.7 percent from the year earlier level. The largest declines are expected to be for expenditures on feed and fertilizer due mainly to lower prices. Interest on indebtedness is also projected to decline this year, but taxes and wages to farm labour are likely to be higher.

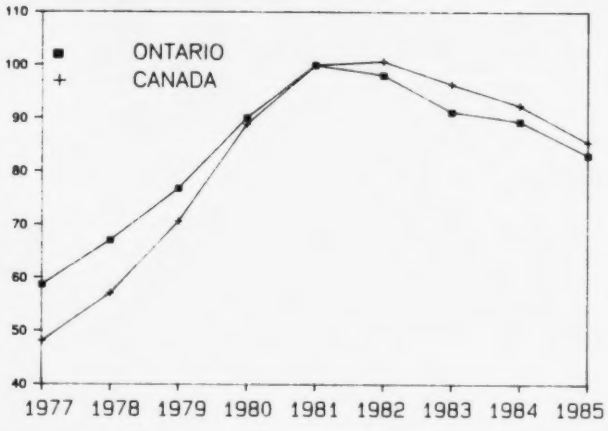
The realized net income of Ontario farm operators (from farming operations) in 1986 is projected to be $1.34 billion, representing an increase of 31 percent compared to 1985. This figure excludes the value of changes in farm inventories. It should be emphasized that the detrimental effects of the poor harvesting conditions this fall have not been taken into account in determining this forecast. This figure is also subject to adjustment, pending the federal government's payout of the $1 billion deficiency payment.

FARM INPUTS

Land

The decline in farmland values continues, as shown in the graph. In Ontario, farmland values for 1985 were about 83 percent of 1981 levels which were at an all time high. In the United States, the decrease from 1984 to 1985 marked the largest percentage drop since the depression era of 1932 and 1933. For 1986, land values appear to have declined further in all parts of North America, particularly in the west and in the United States. While current prospects for higher values remain bleak, stronger markets are anticipated for the late 1980's and early 1990's.

Index of Values of Farm Lands and Buildings, Ontario and Canada (1981 = 100)



Statistics Canada

Finance and Credit

Several government credit programs have assisted farmers in reducing the interest rates on operating credit (eg. Alberta, Ontario). Yet, because of debt problems carried forward, and current low returns for wheat, feedgrains and some oilseeds, a number of producers remain insolvent. As a result, the farm credit systems in both Canada and the U.S. are reporting losses. (FCC reported a loss of $121.4 million in 1985-86 fiscal year, while the U.S. Farm Credit System realized a combined net loss of $206 million for the first quarter of 1986.

Farm Machinery

The sharp decline in farm machinery sales along with a pronounced shift to European and Japanese manufacturing and sourcing of components has had a devastating effect on the North American farm machinery industry. In spite of concerted efforts by manufacturers, inventories remain high. Manufacturers are expected to reduce production schedules even further. Strong promotional and interest reduction programs will be maintained to encourage new sales.

Prospects for the farm machinery in the next few years are mixed. Liquidation of farms under financial stress is expected to continue at higher than normal rates, thus putting ample supplies of used equipment on the market. As a result, sales of new equipment will remain sluggish.

Fuel

For the remainder of 1986, farmers can expect plentiful supplies of refined petroleum products at moderately lower prices. Since mid-1985 prices paid by Ontario for gasoline and diesel products have declined by about 5 percent. In contrast, American fuel prices have declined by about 27 percent.

It is expected that crude oil prices will remain at current levels, but the full extent of the price reductions are not likely to be passed on to consumers as companies attempt to improve their profit margins.

Pesticides

In 1986, the area planted in Ontario to major cash crops was about 3 percent lower than in 1985. The Canadian total was actually up by 2 percent, because of increased wheat plantings. USDA estimated that planted acreages of major field crops in the U.S. were down by 5 percent. Combined with lower expected returns, overall use of farm pesticides was down by about 6 percent. For 1987, product demand is expected to remain flat, and industry representatives are currently projecting general price increases of 2 to 4 percent for Ontario.

Fertilizer

Plant nutrient use in Ontario for 1985-86 is estimated to be down slightly from a year earlier, due mainly to reduced acreages of corn and other cash crops. Domestic supplies, while somewhat lower than last year, were adequate to meet last year's demand.

Trends in the Canadian production of fertilizer products were mixed. Ammonia production increased by 11 percent and urea was down by 5 percent. Phosphate production increased by 3 percent and potash declined by 10.5 percent. Prices in Ontario were 5 percent lower. Farm prices for fertilizer products appear to have bottomed out and no major changes are anticipated for 1987.

IV. FIELD CROPS

ESTIMATED AREA, YIELD, AND PRODUCTION OF SPECIFIED FIELD CROPS, IN ONTARIO 1985 and 1986

Crop	Year	Area	Yield per Hectare	Production
		hectares	kg	'000 tonnes
Winter Wheat	1986	253,000	3,700	925.3
	1985	212,000	4,500	953.9
Spring Wheat	1986	28,300	2,800	78.9
	1985	12,100	3,400	41.6
Rye	1986	30,400	2,200	66.0
	1985	30,400	2,500	76.2
Oats	1986	117,000	2,300	273.0
	1985	129,000	2,600	331.7
Barley	1986	235,000	3,300	768.6
	1985	210,000	3,600	754.8
Mixed Grain	1986	223,000	2,800	631.4
	1985	251,000	6,400	790.4
Grain Corn	1986	801,000	6,400	5,092.9
	1985	902,000	6,400	5,801.6
Canola	1986	34,000	2,000	68.7
	1985	20,200	2,020	40.8
Soybeans	1986	405,000	2,400	987.9
	1985	425,000	2,500	1,048.0
Dry White Beans	1986	42,500	1,810	77.1
	1985	36,400	1,610	58.5
			tonnes	
Fodder Corn	1986	202,000	27	5,534
	1985	214,000	28	6,076
Hay	1986	1,070,000	7.9	8,437
	1985	1,050,000	6.8	7,140

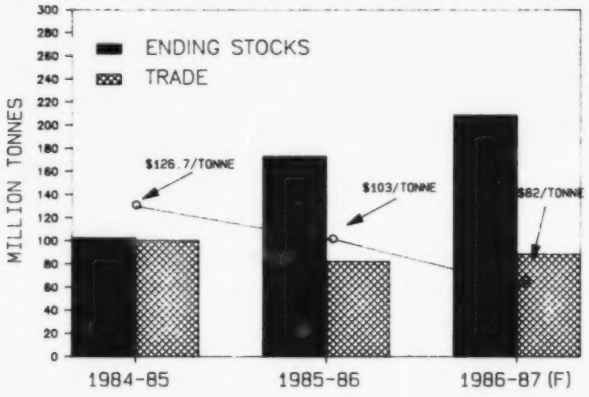
SOURCE: *Ontario Ministry of Agriculture and Food.*

COARSE GRAINS

Situation

The situation in the grains markets has been highlighted already in previous sections of the paper. The chart below highlights the major components. Stocks of coarse grains have been and are still rising, because production continues to outpace usage. At the same time, the international trade in grains which was growing steadily in the 1970's and early 1980's has been declining of late. This decline in trade is especially true for the U.S. portion.

World Coarse Grain Stocks and Trade, and Chatham Corn Price in October, 1984-85 to 1986-87



USDA, OMAF

U.S. Supply and Disposition of Coarse Grains, 1984-85 to 1986-87

	1984-85	1985-86	1986-87	% Change 1986-87 vs. 1985-86
	– million tonnes –			
Beginning stocks	39.6	57.5	126.3	+119.7
Production	236.9	273.9	250.0	−8.7
Supply	277.3	332.2	376.9	+13.5
Usage				
Domestic	163.2	169.4	168.6	−0.5
Export	56.6	36.6	43.9	+19.9
Total	219.8	205.9	212.5	+3.2
Ending stocks				
FOR	15.2	16.6	51.1	+207.8
CCC	8.9	20.4	44.0	+115.7
Free	33.4	89.3	69.3	−22.4
Total	57.5	126.3	164.4	+30.2
(as a % of use)	(26.2)	(61.3)	(77.4)	+26.2
(% of world stocks)	(55.7)	(72.7)	(78.5)	+8.0

SOURCE: *USDA, October 1986, Supply-Disposition Report and previous Reports.*

With production of grains growing and various former importers of grains becoming self-sufficient or exporters (EC, India, China), the international price declined. This past year the U.S. decided to fight to maintain its share of world trade, while slowly readjusting its production base at home. Because of all these factors, the price of corn to producers in the Chatham area at harvest time has steadily dropped from $127/t in October 1984 to $82/t this year.

The U.S. share of world stocks of corn has increased, as shown below. While the U.S. held 69 percent of the world's corn at the end of the 1984-85 crop year, by next summer the USDA predicts that the U.S. will hold 88 percent. At the same time, the season average price will drop from Cdn $137/t in the 1984-85 crop year to $82-98/t this crop year.

Outlook

The U.S. Administration has announced a loan rate for corn of Cdn. $99.60/t. For 1987, 35 percent of the corn acreage base could be removed from production; 15 percent through acreage diversion and 20 percent through the acreage reduction program. Even so, it will take extremely poor growing conditions to inject any bullishness into the market and even then the impact would be limited. Alternatively, under a scenario of ideal growing conditions next spring, corn and barley prices will very likely deteriorate further as 1987 unfolds.

Details of USDA loan rates (in Cdn $) for wheat, corn, barley and soybeans are shown below. As a result of excess supplies, the farmgate price will be near the loan rates.

U.S. Loan Rates for Selected Grains and Oilseeds, 1985-86 and 1986-87

	Wheat	Corn	Barley	Soybeans
	– Cdn $/tonne –			
Crop Year Loan Rates:				
1985-86	168.5	139.5	132.8	256.4
1986-87*	117.5	100.7	95.1	232.9
Total Decline	51.0	38.8	37.7	23.5
	−30.3%	−27.8%	−28.4%	−9.2

*The 1986-87 loan rate is adjusted for the Gramm Rudman Amendment.
Note: Figures may not add exactly due to rounding. Assumes an exchange rate of $1.39) $1.00 U.S.
SOURCE: *USDA and OMAF*.

Although the domestic supply situation is somewhat different for corn and barley, the majority of the price decline for both crops is attributable to increasing global supplies of coarse grains relative to use and significantly lower loan rates for feed grains in the U.S. in 1986-87.

Price projections for corn and barley are shown above.

OILSEEDS

Situation

The producer price for new crop soybeans in Chatham in mid-October was approximately $220/t, down 3 percent from last October's price. The provincial price for canola is estimated at just under $200/t, down about $100/t from last October's price.

Global soybean carry in stocks for 1986-87 are expected to be 22.7 million tonnes, up 30.5 percent from a year earlier. With 1986-87 global production expected to increase by 2.2 percent, world supplies are expected to exceed 1985-86 supplies by 6.5 percent. Global usage is expected to increase by 5.3 percent. Consequently, ending stocks are expected to continue to increase.

Global Supply and Disposition of Soybeans, 1984-85 to 1986-87

	1984-85	1985-86	1986-87	% Change 1986-87 vs. 1985-86
		– million tonnes –		
Beginning stocks	13.5	17.4	22.7	+30.5
Production	92.7	96.3	98.4	+2.2
Supply	106.2	113.7	121.1	+6.5
Usage				
Crush	73.8	75.8	78.5	+3.6
Other	15.0	15.2	17.3	+13.8
Total	88.8	91.0	95.8	+5.3
Ending stocks	17.4	22.7	25.3	+11.5
(as a % of use)	(19.6)	(24.9)	(26.4)	+6.0
Trade	25.3	26.7	27.6	+3.4
(as a % of use)	(28.5)	(29.3)	(28.8)	−1.7

SOURCE: *USDA, October 1986, Situation and Outlook Report and previous Reports.*

In the U.S., where 55 percent of the world's soybean crop is produced, the soybean market reflects the global developments. Both supplies and carry out stocks are up from 1985-86. The U.S. loan rate for 1986-87 (after Gramm-Rudman) is $233/t, down 9 percent from the 1985 loan rate. This has reduced the floor price for soybeans.

World supplies of soybeans, peanuts, rapeseed, flaxseed and palm kernel will increase in 1986-87 and thereby contribute to the burdensome supplies of oilseeds in 1986-87 while cottonseed and copra supplies are expected to decline.

Global production of (44% protein equivalent) meals in 1986-87 is expected to increase slightly. The same holds true for the global production of vegetable and marine oils. The provincial soybean crop for 1986 is currently pegged at 988000 tonnes, down 5.7 percent from last year's record crop. This decline is mainly due to the smaller area planted to soybeans. Yields are expected to average 2.4 t/ha. The provincial canola crop is expected to total 68700 tonnes, up 68.4 percent from last year. This increase is associated with a 70 percent increase in the area of canola planted.

Outlook

The price outlook for soybeans and canola in Ontario in 1986-87 is bearish. The major factors that will affect soybean and canola prices in 1987 are the soybean crop development in Brazil and Argentina, U.S. planting decisions in the spring of 1987 and the strength of the U.S. dollar.

At present — and probably at planting time in 1987 — the soybean-corn price ratio favours soybeans. This could result in extremely low prices for soybeans in the fall of 1987. Quarterly soybean price projections for the coming year are shown above.

FRUIT AND VEGETABLES

United States

The USDA forecast for the 1986 U.S. apple crop is 7.85 billion pounds, 1 percent below the 1985 crop, making the 1986 crop the smallest since 1981. The Washington crop is up 44 percent, but Michigan is down 36 percent and New York 10 percent from 1985. Price outlook is good for the current market year. A Targetted Export Assistance Program (TEAP) of $1.4 million will be used to promote Washington apples in the U.K., Scandinavian and Pacific Rim markets.

U.S. potato acreage in 1986 is estimated at 1.2 million acres, down 10 percent from 1985. Production of winter, spring and summer potatoes is down 17 percent from 1985 and fall production will likely be down also. In general the price outlook for 1986 is better than a year ago.

Production of snap beans, green peas, sweet corn and tomatoes for processing is forecast at 10.9 million tons, down fractionally from last year. Processing tomato production at 7.3 million tons is up 3 percent from last year. California accounts for over 6 million tons of processing tomatoes.

Canada

The Canadian apple crop is forecast to be down 20 percent from 1985. Quebec is down 59 percent and Ontario is down 17 percent from last year. The preliminary production estimate for the 1986 Ontario crop is 334 million pounds. In Ontario yields are reduced the most in areas east of Toronto. Ontario grower returns are expected to be better than last year.

The Ontario peach crop was down one-third from a year ago because of hail damage in the Niagara region, but prices were strong. The grape crop is estimated at 85,000 tons, up 23 percent from 1985. A grape surplus of 20,000 tons is forecast for this fall. The federal and provincial governments have agreed with producers to purchase approximately 16,000 tons at a cost of $3.5 million.

Preliminary OMAF estimates show the potato crop to be 7.3 million cwt. from 32,200 harvested acres, compared to 7.6 million cwt. from 37,500 acres in 1985. Ontario fresh market potato growers have received a 20.5¢ per cwt. provincial stabilization payment for the 1985 crop, up to a maximum of $6,560 per farm. Ontario is introducing a new three year income stabilization program for fresh market potatoes, jointly funded by the province and the growers.

The processing tomato crop produced adequate yields of excellent quality in most areas. The total size of the crop is estimated at slightly over 530,000 tons. Processors realized between 95 and 100 percent of their expected pack. The price of imported tomato products is moving upward. Stronger Italian and Spanish currencies relative to the Canadian dollar and a small pack in Italy are contributing factors to a firmer market for tomato products.

Processing vegetables generally did not yield well. Industry sources estimate that packs of peas, green and wax beans and sweet corn were approximately 80 percent of the expected levels. The reduced packs may strengthen the market, which has been depressed for several years because of excess inventories.

The muck crops are down an estimated 30 percent from last year, because of the prolonged wet weather. The keeping quality of carrots is questionable. At the end of October prices paid to growers at Bradford were $6.00/50 lbs. for onions and $3.50/50 lbs. for carrots, both quotations on a field run basis. Because of a short supply prices are expected to remain firm during the remainder of the market season.

TOBACCO

Targetted Ontario flue-cured tobacco production for 1986 was 130 million pounds. Frost and hail reduced the crop size, although farm carryover from previous years could see marketed production near the target. No burley tobacco was grown in either 1985 or 1986.

Canadian cigarette sales in the first half of 1986 were down 7.5 percent compared to the same period in 1985. A 17 percent increase in fine cut sales did not offset the decline. Fine cut sales have increased from 5 percent of domestic sales in 1982 to an estimated 14 percent in 1986. In the past two years, manufacturers have drawn down inventories to better reflect demand. Anti-smoking campaigns, lower sales and higher taxes provide manufacturers little incentive to rebuild stocks.

Export markets are characterized by low cost competition from Brazil, Zimbabwe and other third world countries, although Canadian tobacco is competitive at $1.20 per pound in price and quality. Sanctions and possible countersanctions between Zimbabwe and South Africa may improve prospects for Canadian export sales.

Federal and provincial officials are reviewing a national tobacco diversion plan with industry and grower representatives. The plan could provide assistance for long term rationalization and a shift to alternative crops.

V. LIVESTOCK AND POULTRY

OVERVIEW

The consumption of livestock and poultry products continues to increase in most parts of the world. Poultry meat demand is generally growing stronger than the demand for beef and pork. Data for the U.S. and Canada indicate somewhat similar trends in meat consumption, with the following noteworthy exceptions. Beef and poultry meat consumption per person is higher in the U.S.; pork demand is very similar; and the strong growth in chicken and turkey consumption in the U.S. has not yet shown up in Canada. Chicken consumption has increased strongly since 1983, while some increase is expected in turkey demand for 1987. Based on these trends, Canadian chicken and turkey producers should look forward to significant increases in their markets, while beef and pork producers may have to make greater marketing efforts to maintain their current share of the meat consumption.

A number of developments are influencing the demand for meats or total protein. One of these is the aging of the Canadian population. In as much as older persons need less protein, the total protein demand (meats, cheese, eggs) could decline during the next 15 years. Per capita egg consumption has generally been down to flat for the past 15 years, while cheese consumption is increasing. A shift in protein demand from meat to cheese is a trend to watch.

Beef output may well be approaching the bottom of the beef cycle in 1987. Present low grain costs and strengthened beef prices should lead to a building of the beef breeding herd. A major impediment could be the availability of credit for cow-calf producers.

Canada's pork output has been very stable in the past few years as prices have been supported by a good domestic demand and continued strong export demand. In contrast, the U.S. producers have reduced their own output in 1986 considerably. Even though extremely low corn prices and high hog prices should lead to an expansion of pork output next year, this action will again be tempered by the availability of credit, especially to U.S. hog producers. The increase in poultry output in the U.S. will also limit the rate of expansion in pork production.

Price projections for beef, pork, milk, chicken, turkey and eggs at the farm level are shown above.

BEEF

Situation

For the first two quarters of 1986 beef prices were well below 1985 levels, due to heavier cattle being marketed and the USDA Milk Production Termination Program. Beef carcasses averaged some 15 lbs. more than those marketed a year ago and the slaughter of extra dairy cattle added 3-4 percent to the U.S. beef supply in the second quarter. In mid-August a $13.20 per head tripartite stabilization payment for slaughter cattle was announced for the second quarter of 1986, reflecting the lower than average margins in Canada during that period.

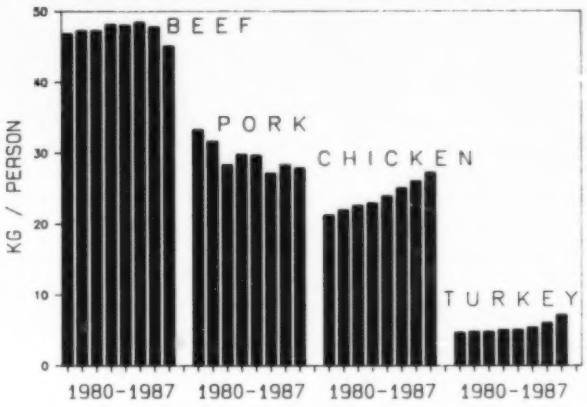
In the third quarter of 1986, beef prices recovered as Toronto A1,2 steer prices averaged $83.01/cwt. as compared to $73.93/cwt. the previous year. These higher prices together with lower feed costs, have had a welcome effect on producer profits. The higher beef prices were supported by strength in the pork market, reduced poultry supplies and resumption of normal markets after adjustments were made for the initial impacts of the USDA Milk Production Termination Program.

Statistics Canada's July 1 figures showed total cattle and calves in Canada down 2 percent from a year ago at 11.5 million head. For Ontario, total cattle and calves stood at 2.4 million head, down 3 percent from a year ago. The beef cow herd in Canada was 3.0 million head, down 2 percent from a year ago, while beef heifers for breeding were up 3 percent, to 0.6 million head. Western Canada's beef cows on farms were placed at 2.5 million head, down 5 percent from a year ago. Beef heifers for breeding, however, were up 3 percent in the west and up 2 percent in the east. The inventory of heifers for slaughter and steers, one year old or older was down in Canada.

As of October 11, 1986, the cumulative federally and provincially inspected slaughter for Canada was 2.6 million head, down 2.0 percent from a year ago. Frozen storage stocks of beef have been below last year's levels. Slaughter cattle exports to the U.S. reached 139,000 head, up 17.6 percent from a year ago, while imports from the U.S. declined by 33 percent from last year to reach 31,000 head.

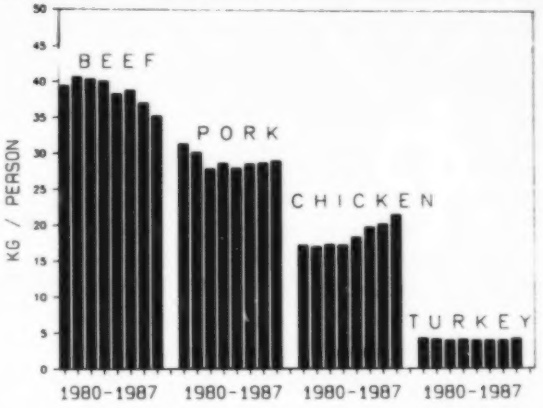
Dressed beef imports from the EC have declined to 2.2 million pounds from last year's level of 19.6 million pounds. This reduction can be attributed to the imposition of duties on Irish and Danish beef imported into Canada. While this has been good news for the Canadian beef industry, the large exports of allegedly subsidized cattle to the U.S. have caught

Per Capita Consumption of Meat, U.S., 1980-1987



USDA

Per Capita Consumption of Meat, Canada, 1980-1987



Statistics Canada, Agriculture Canada

the interest of U.S. cattle producers. As a result, the Senate Finance Committee has requested that the U.S. International Trade Commission conduct a Section 332 fact-finding investigation into Canadian cattle and beef exports to the U.S. This investigation is a cause for concern as a similar investigation preceded requests by U.S. producers for countervailing duties on hogs, potatoes, and softwood lumber.

Outlook

The market outlook for the beef sector is favourable. The initial impact of the USDA Milk Production Termination Program has taken its course in the markets and lower beef supplies for the remainder of 1986 and 1987 are expected to provide price support. Higher beef prices, however, will support the trend towards increased poultry consumption, but higher disposable consumer incomes are expected to help buffer the negative price impact of this trend on total beef consumption.

The outlook for beef producer profits is also favourable as lower feed prices and higher cattle prices are welcome news for the beef sector. The high cattle prices and lower feed prices have already caused the Toronto steer to corn price ratio in the third quarter of 1986 to jump above price ratios of recent years. These levels are anticipated to assist in moderating, if not reversing, the beef herd liquidation.

HOGS

Situation

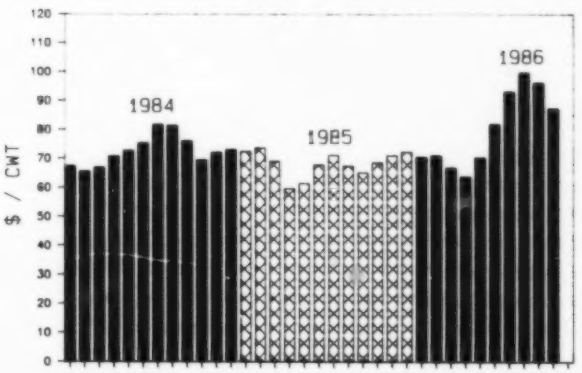
North American hog markets have recently been dominated by concerns over hog inventory levels since the USDA July 1 report showed a greater than expected decline in hogs on-farm, followed by a substantial correction in the September 1 survey. Nonetheless, the U.S. breeding herd and number of market hogs are expected to be below last year's levels until mid-1987. Domestically, Statistics Canada's hog inventory numbers for July 1 have placed total on-farm pigs in Canada at 10.71 million head, about equal to last year's levels. Total on-farm pigs in Ontario were placed at 3.4 million head, also close to last year's levels. The Ontario breeding herd was stable as compared with a year ago.

In Ontario, hogs slaughtered at provincially and federally inspected plants to date (October 11) were placed at 3.0 million head, up about 3 percent from the same period last year. Storage stocks of pork, on the other hand, have been 40 percent below 1985 levels. Lower stock levels in Canada and the U.S., combined with reduced hog marketings in the U.S., have been the fundamental factors behind the recent upsurge in North American hog prices.

Canada's pork output has been very stable in the past few years, because prices have been supported by a good domestic demand and continued strong export demand. For the period ending October 11, total pork exports for Canada were 385 million lbs., up 14 percent from a year ago. The main destination for Canadian pork exports continues to be the U.S. market which has expanded by over 12 percent from last year's level. The second most important export market for Canadian pork is Japan, which has expanded by 27 percent to reach a level of 40.3 million lbs., for the period ending October 11.

For the third quarter of 1986, Ontario Index 100 hog prices averaged a record $214.29/100 kg ($97.20 per cwt.), up substantially from a year ago, as shown in the graph.

Index Hog Prices, Toronto, Monthly, 1984-1986



Agriculture Canada

The outlook for Ontario hog prices is favourable well into 1987. The reduction in North America's hog numbers, and reduced sows for breeding and bred gilts are good long-term factors for hog prices. Lower feed prices will continue however to support improved profits in the hog industry.

The U.S. countervail duty on Canadian live hogs was instituted in August 1985. The duty of 4.4¢ per pound live weight is currently being reviewed by the U.S. government. At the same time the U.S. Court of International Trade still has to review appeals to the current ruling by the Canadian Pork Congress, the Canadian Meat Council, and the U.S. National Pork Producers' Council. This review is expected next January.

DAIRY

Global

During 1986, the U.S. government attempted to reduce the surplus situation in the U.S. dairy industry by introducing the Milk Production Termination Program. Under this program, producers agreed to exit the dairy business after accepting a buyout from the U.S. government. However, production estimates for 1986 still indicate a 1 percent increase in milk production above the 1985 record. U.S. producers are considering various options, including supply management, to reduce their surplus production.

The EC continues to accumulate large surpluses of butter and skim milk powder. Various proposals have been discussed regarding reducing the surplus stocks now in storage. Farm leaders in the EC are still debating the proposal of reducing the overall EC quota level by 6 percent over the next two years. However, with quota levels approximately 15 percent above domestic requirements, these large surpluses will continue to keep the world price of dairy products at depressed levels. Domestic consumption in he EC has declined, increasing the build-up of stocks.

Canada

For the 1986-87 dairy year the Canadian Milk Supply Management Committee agreed to keep quota levels unchanged from the previous dairy year. For the 1985-86 dairy year Canadian producers fulfilled 100.6 percent of the industrial milk quota allotment (Ontario was at 102.5%).

On August 1, 1986 the target return level for industrial milk shippers was increased from $45.68/hL to $46.30/hL. A further price increase is not expected until August 1, 1987. Similarly, the price for fluid milk (Class 1) will not likely be increased until at least mid-1987.

CHICKEN

The year 1986 marks the third consecutive year of substantial growth in the demand for chicken in Canada. The most important factors accounting for this growth are the continued introduction of new further processed products; expansion of chicken on restaurant and food service outlet menus; expansion of fast food outlets serving mainly chicken; relatively greater growth in demand for white meat; and higher than average growth of chicken demand in the food service sector.

As a result of a local supply shortage this summer, coupled with reduced availability from the U.S., wholesale prices in Ontario skyrocketed within a short time from $2.15/kg in mid-July, to a peak of $2.79/kg in the week of August 23, while producer prices rose from $1.09/kg to $1.17/kg in the same period. Since then, however, with more adequate supplies and a weaker demand, prices have been falling and by mid-October stood at $2.22/kg at wholesale and $1.08/kg for live birds (1.9 kg).

For 1987, anticipating a continued expansion in demand by the various segments of the chicken market, the Canadian Chicken Marketing Agency has set the global production quota at 512 million kg, which represents and increase of 7.6 percent over 1986. For the first two quota periods of 1987 the production targets have been set at 97 million kg and 101.6 million kg, or increases of 2.1 and 9.7 percent respectively. The Agency intends to ensure that supply requirements for the heavier demand periods (spring to early fall) will be fully met, and will therefore aim for production levels that follow a "bell curve" pattern.

TURKEY

The turkey market in Canada has grown very slowly during the past two years. The market has been particularly strong this year as evidenced by an 11 percent increase in disappearance, despite relatively high prices. Product development and marketing innovation have resulted in higher consumer awareness and increased consumer acceptance of turkey meat in all forms, particularly for further processed products.

Prospects point to a favourable turkey market to the end of the year. Supplies of consumer turkey for the Christmas market should be adequate while sustained prices of competing meats should help turkey demand. If the extensive features offered for Thanksgiving will be repeated at Christmas, a good disappearance can be expected. Year end storage stocks are expected to be close to last year levels or slightly lower, but there could be a shortage of product for the further processing industry.

The production quota for 1987 has been set at 111.1 million kg or 7.9 percent above the 1986 quota. For the first time, provincial quota allocations for 1987 will be classified according to type of turkey and will be allocated on the basis of three four-month periods. The intent is to supply the Canadian market with the proper type of raw product and at the time when it is required, so as to take full advantage of market opportunities and reduce the chances of imports.

As a result of quota categorization, production will shift from light to heavy turkey and to the first six months of the year, particularly in Ontario where demand for heavy turkey for further processing in that period is more pronounced.

EGGS

In the past two years a higher degree of stability has been achieved in the egg sector, together with a closer balance between supply and demand. On the supply side, adjustments in production have resulted in more manageable surpluses to table market requirements and in a reduction of costly exports at unprofitable prices. On the demand side, overall consumption has been stabilized due to an increase in

domestic sales to breakers in 1985 and an increase in table egg disappearance in 1986.

In the past, substantial quantities of egg surpluses were sold as shell eggs into the U.S. market. Now, most surplus eggs are processed in Canada and the egg products are exported. In 1986 the entire surplus will be processed in Canada. This has allowed a significant expansion of processing activities both to fill increasing requirements of the domestic market and for export shipment.

Recent CEMA projections to the end of 1986 indicate only minor changes relative to 1985. Total production for 1986 is expected to increase marginally (0.7%) and the surplus to table market requirements should decline by about 3 percent. Disappearance of table eggs is projected to increase by 1.5 percent, but the purchases by processors for the domestic market should decline by 7 percent, resulting in a total egg demand similar (+0.7%) to that of last year. Imports would increase by 14 percent and purchases of surplus eggs by processors for export purposes would increase by 11 percent.

Egg prices are expected to decline to the end of 1986 and into 1987 as a result of lower feed grain prices. For 1987 no change is expected in quota allocation and the supply demand conditions should approximate the 1986 pattern.

Barring serious threats of imports from the U.S. (which currently appear improbable), turkey prices are likely to be maintained at present levels to the end of the year. A downward adjustment is expected in the first part of 1987 on account of lower cost of production, affecting live prices and larger supplies putting pressure on wholesale prices.